

**FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM**

**ST. LOUIS SITES**

**COMMUNITY RELATIONS PLAN  
(REVISION 1)**

**January 1999**

**U.S. Army Corps of Engineers  
St. Louis District Office  
St. Louis, Missouri**



## FOREWORD

This Community Relations Plan (CRP) is an ancillary document for the remediation process to be performed by the St. Louis District, U.S. Army Corps of Engineers (USACE) to support cleanup activities at the Formerly Utilized Sites Remedial Action Program (FUSRAP) in St. Louis, Missouri and Madison, Illinois. These properties include the following sites: the St. Louis Downtown Site (SLDS), including Vicinity Properties; the St. Louis Airport Site (SLAPS); the SLAPS Vicinity Properties (SLAPS VPs); Hazelwood Interim Storage Site (HISS), including the Latty Avenue Vicinity Properties (Latty VPs); and the Madison Site. These properties are located in Hazelwood, Berkeley, and St. Louis in Missouri and in Madison, Illinois. Although collectively referred to as the St. Louis Sites, USACE recognizes the unique nature and perspective of each of the communities in which these properties are located.

This CRP describes the communities' concerns, as identified during community interviews, and provides a description of community relations activities that have been and will be implemented to respond to those concerns and to facilitate public input to the decision-making process. The plan contains a brief description of the site and community background, a summary of concerns, highlights of the community relations program, and the timing of community relations activities. It contains a contact list of key community leaders and interested parties, suggested locations for public meetings, and actual locations of administrative records and administrative record files. The plan also identifies the USACE FUSRAP Program and Project Managers whom members of the public may contact if they are interested in becoming involved in St. Louis FUSRAP decisions. While the plan includes an overview of the activities that have been or will be conducted at all properties during remediation, the extent and focus of these activities will be determined by the needs of each property and its related community.



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## 1.0 INTRODUCTION

### 1.1 Overview of Formerly Utilized Sites Remedial Action Program, St. Louis Sites

The purpose of this Community Relations Plan (CRP) is to establish avenues for sharing knowledge and to encourage community participation related to cleanup of radioactive materials left from former uranium processing activities at properties in or near St. Louis, Missouri. Most citizens want to be aware of and participate in decision making processes that may affect their community. These properties, collectively referred to as the St. Louis Sites, are the St. Louis Downtown Site (SLDS), including Vicinity Properties; the St. Louis Airport Site (SLAPS); the SLAPS Vicinity Properties (SLAPS VPs); Hazelwood Interim Storage Site (HISS), including the Latty Avenue Vicinity Properties (Latty VPs); and the Madison Site. These cleanup activities are part of a larger U.S. Department of Defense (DoD)/U.S. Army Corps of Engineers (USACE) environmental program called the Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP was transferred from the U.S. Department of Energy to the USACE in October 1997, under the Energy and Water Development Appropriations Act. Cleanup activities will follow guidelines established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and will incorporate values of the National Contingency Plan (NCP).

### 1.2 Overview of Superfund Regulations

FUSRAP activities are governed primarily by CERCLA (commonly known as Superfund), which was passed by Congress in 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) passed in 1986. This establishes the legal requirement for identifying, investigating, and cleaning up inactive hazardous waste sites. Section 2.0 presents detailed information on the Superfund cleanup process.

The St. Louis District USACE is charged with carrying out the cleanup of the FUSRAP St. Louis Sites. In accordance with CERCLA, the St. Louis District USACE is taking action to support the decision-making process for evaluating remedial action alternatives. Section 3.0 provides site-specific information on the location, history, and work accomplished to date on the FUSRAP St. Louis Sites.



### 1.3 Background of the Community Relations Plan

Section 4.0 presents profiles of the various sites: SLDS and vicinity properties, SLAPS and SLAPS VPs, HISS and Latty VPs, and the Madison site.

The most usable and effective CRPs are those that reflect the specific concerns, priorities, and personalities of the communities involved. To obtain this in-depth information, the St. Louis District USACE conducted interviews in the cities of Hazelwood, Berkeley, and St. Louis, in Missouri; and in Madison, Illinois. Recognizing the unique nature and perspective of each of the communities where the properties are located, USACE wished to conduct interviews within each community directly impacted by the sites. Persons interviewed included private citizens, elected officials, representatives of local municipalities, citizen and environmental groups, the business community, the educational community, and local environmental agencies. The original interviews were conducted during the summer of 1993 and follow-on interviews were conducted during the fall of 1998. Concerns and issues raised during these interviews are summarized in Section 5.0.

Section 6.0 outlines the goals and objectives of this CRP and details specific activities that have been and will be conducted in establishing two-way communication between the St. Louis District USACE and the various area communities. St. Louis District USACE technical and management personnel are responsible for implementing this CRP.

The remainder of the document consists of the following appendices that contain supporting information:

- Appendix A Chronology of Community Relations Activities to Date**  
Provides a listing of community relations activities that have been conducted to date.
- Appendix B Community Interview Questionnaire**  
Contains the questions posed to community representatives during the interviews conducted in the fall of 1998.



- Appendix C Potential Meeting Locations**  
Provides a listing of recommended locations for public meetings, along with addresses, telephone numbers, and points of contact.
- Appendix D Administrative Record Locations**  
Lists the locations of Administrative Records and Administrative Record Files that contain documents related to the St. Louis, Missouri FUSRAP Sites program.
- Appendix E Key Points of Contact**  
Lists names, addresses, and telephone numbers of key representatives of the various local communities; federal, state, and local elected officials; citizen and environmental groups; federal, state, and local environmental agencies; and the local media.
- Appendix F List of Acronyms**  
Lists acronyms and abbreviations for technical terms used in this document.
- Appendix G Glossary of Terms**  
Defines technical terms used in this document.
- Appendix H Fact Sheets Issued to Date**
- Appendix I Newsletters Issued to Date**
- Appendix J Principal Laws and Regulations**



## 2.0 THE CERCLA CLEANUP PROCESS, PROJECT ORGANIZATION, AND AGENCY AGREEMENTS

The St. Louis District U.S. Army Corps of Engineers (USACE) will remediate the St. Louis Sites in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Cleanup activities at the sites are being conducted under the Formerly Utilized Sites Remedial Action Program (FUSRAP). Values of the National Contingency Plan (NCP) are also integrated into the cleanup process.

### 2.1 The Superfund Remediation Process

Once a contaminated site has been designated on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL), remediation is conducted in accordance with the Superfund cleanup or remedial action processes (See Figure 2.1). These processes include the following steps:

- Preliminary Assessment/Site Inspection (PA/SI)
- Remedial Investigation (RI)
- Feasibility Study/Proposed Plan (FS/PP)
- Record of Decision (ROD)
- Remedial Design/Remedial Action (RD/RA)
- Site Closeout
- Five-Year Review/Long-Term Monitoring, Operation, and Maintenance

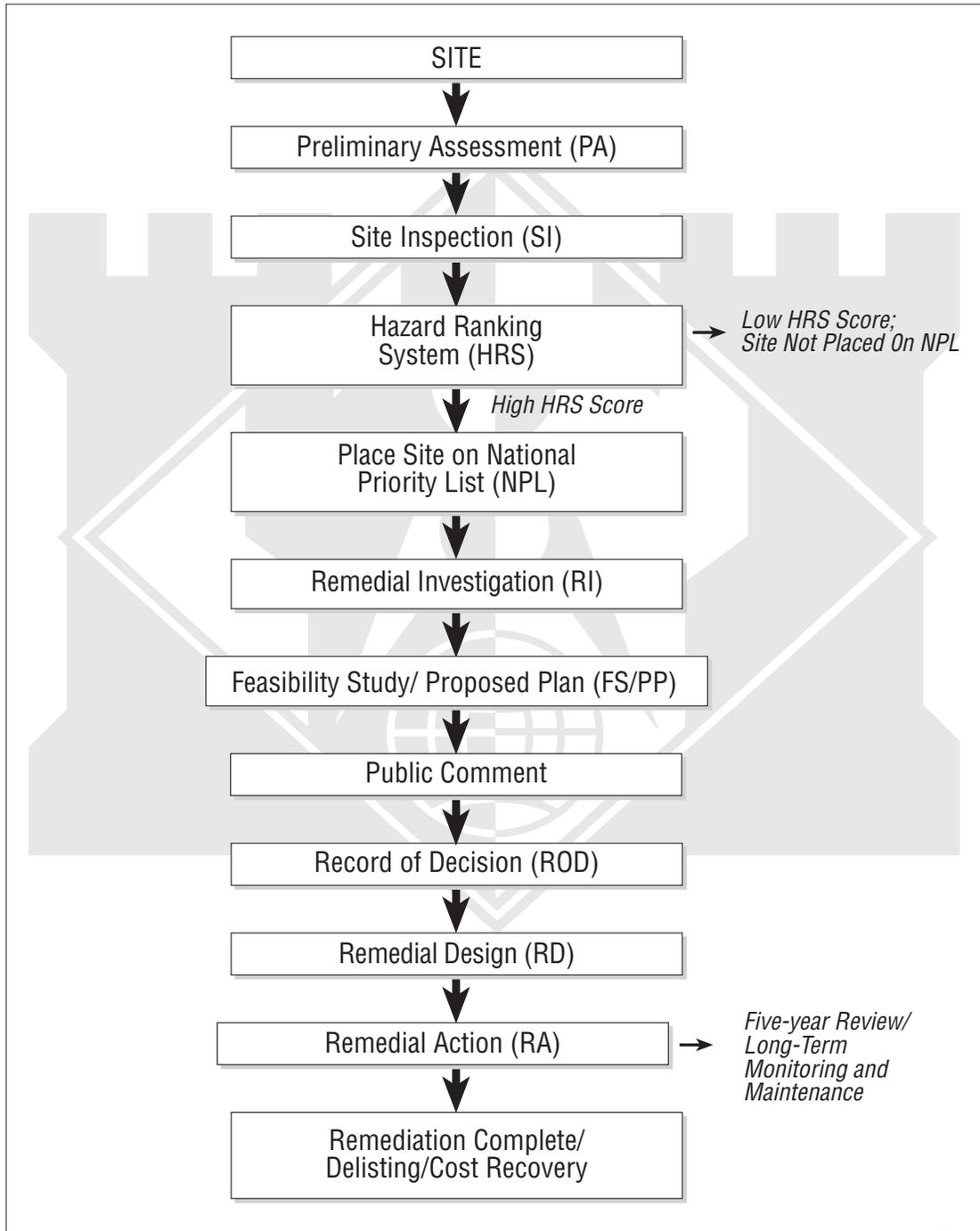
The St. Louis Sites have been divided into five sites to be cleaned with a mixture of removal and remedial actions. The sites were categorized according to geographical location and include the St. Louis Downtown Site (SLDS) and SLDS Vicinity Properties, the St. Louis Airport Site (SLAPS), the SLAPS Vicinity Properties (SLAPS VPs), the Hazelwood Interim Storage Site (HISS) and Latty Avenue Vicinity Properties (VPs), and the Madison Site. The defining characteristics of each of these sites are presented in detail in *Section 3.0, FUSRAP St. Louis Sites Descriptions*.

#### 2.1.1 Preliminary Assessment/Site Inspection

The Preliminary Assessment (PA) is a historical record review of activities at the site that is used to determine the likely locations of hazardous waste disposal areas and initially establishes the extent of contamination. This phase generally entails interviewing active and retired employees who worked at the site as well as



**Figure 2.1**  
**Superfund Site Remediation Process**



reviewing records, permits, and files. The Site Inspection (SI) is a physical inspection of the site to verify information obtained during the PA. This often involves limited soil and water sampling.

### **2.1.2 Remedial Investigation**

The Remedial Investigation (RI) identifies the type of contaminants present at or near the site, assesses the degree and extent of contamination, and characterizes potential risks to public health and the environment.

### **2.1.3 Feasibility Study/Proposed Plan**

The Feasibility Study (FS) is conducted to develop and analyze various cleanup alternatives. Upon completion of the draft FS, a public meeting is held to present the FS results and a 30-day public comment period is held to obtain public input. Upon conclusion of the 30-day comment period, a specific long-term permanent remedial action or cleanup technology is selected.

The Proposed Plan (PP) is a CERCLA document developed simultaneously with the FS. The PP summarizes what cleanup remedy has been recommended, and why. Typically, the PP is presented at a public meeting and submitted for a 30-day public review and comment period, along with the FS. Upon conclusion of the 30-day comment period, a specific long-term remedial action or cleanup technology is selected.

### **2.1.4 Record of Decision**

A Record of Decision (ROD) is a final document, which describes the selected cleanup alternative. As the primary decision document, the ROD will substantiate the need for a remedial action, describe the proposed action, and justify the removal action selected. Public comments, USACE's responses, and any new information are detailed in a section of the ROD known as the Responsiveness Summary. The responsible federal agency or department is required by law to commence physical onsite remedial action within 15 months of the effective approval date of the ROD.



### **2.1.5 Remedial Design/Remedial Action**

The Remedial Design/Remedial Action (RD/RA) involves the actual design, development, and implementation of the cleanup method(s) selected in the ROD. The RD is the preparation of technical drawings and engineering specifications for the RA, which is the physical cleanup of the site. When the RD plan is complete, the community is notified through a fact sheet or a community briefing held prior to the start of the RA, explaining the chosen cleanup process.

### **2.1.6 Site Closeout**

USACE will restore the sites to the criteria described in the ROD. During this stage the site will be inspected by EPA to confirm the complete remediation of the contamination.

### **2.1.7 Five-Year Review/Long-Term Monitoring, Operation, and Maintenance**

Following completion of a remedial action, each site is reviewed at least every five years to ensure that the action was effective and that no contamination posing an unacceptable risk to human health, wildlife, and the environment remains. In addition, long-term monitoring is conducted in conjunction with operation and maintenance of the sites to monitor conditions prior to removing the sites listed on the NPL.

If after a five-year review, further action or modification of the remedial action at a site is necessary in accordance with Section 104 or 106 of Superfund, the lead agency, or potentially responsible party for the site shall implement such additional or modified action.



## 2.2 The Superfund Removal Process

The Superfund Removal Process is similar to the remediation process; however, cleanup actions are performed much sooner in the study of a site's contamination. Once a site has received a Hazardous Ranking System Score, a removal action may be performed to address imminent threats to human health and the environment. The resulting cleanup may or may not be the final solution for the site involved. Removal actions are conducted in accordance with Superfund prescribed processes (see Figure 2.2)

### 2.2.1 Engineering Evaluation/Cost Analysis

An Engineering Evaluation/Cost Analysis (EE/CA) evaluates technically and administratively feasible alternatives to clean up a site. EE/CAs are used to identify cleanup alternative for use in removal actions of current concern. By reducing the potential for exposure to contaminants or other hazards, human health, wildlife, and the environment can be protected. To date EE/CAs for the St. Louis Sites have been for removals that are not time-critical. A non-time critical removal action could start later than 6 months after a determination has been made that a response is necessary.

### 2.2.2 Removal Action

The CERCLA response program is divided into two broad categories: removal actions and remedial actions. Removal actions are intended to be relatively quick actions designed to address imminent threats to human health and the environment. Remedial actions are longer-term activities that complete site cleanup if the removal action does not or cannot present a complete solution. Removal actions can be of three types: Emergency, Time-Critical, and Non-Time-Critical.

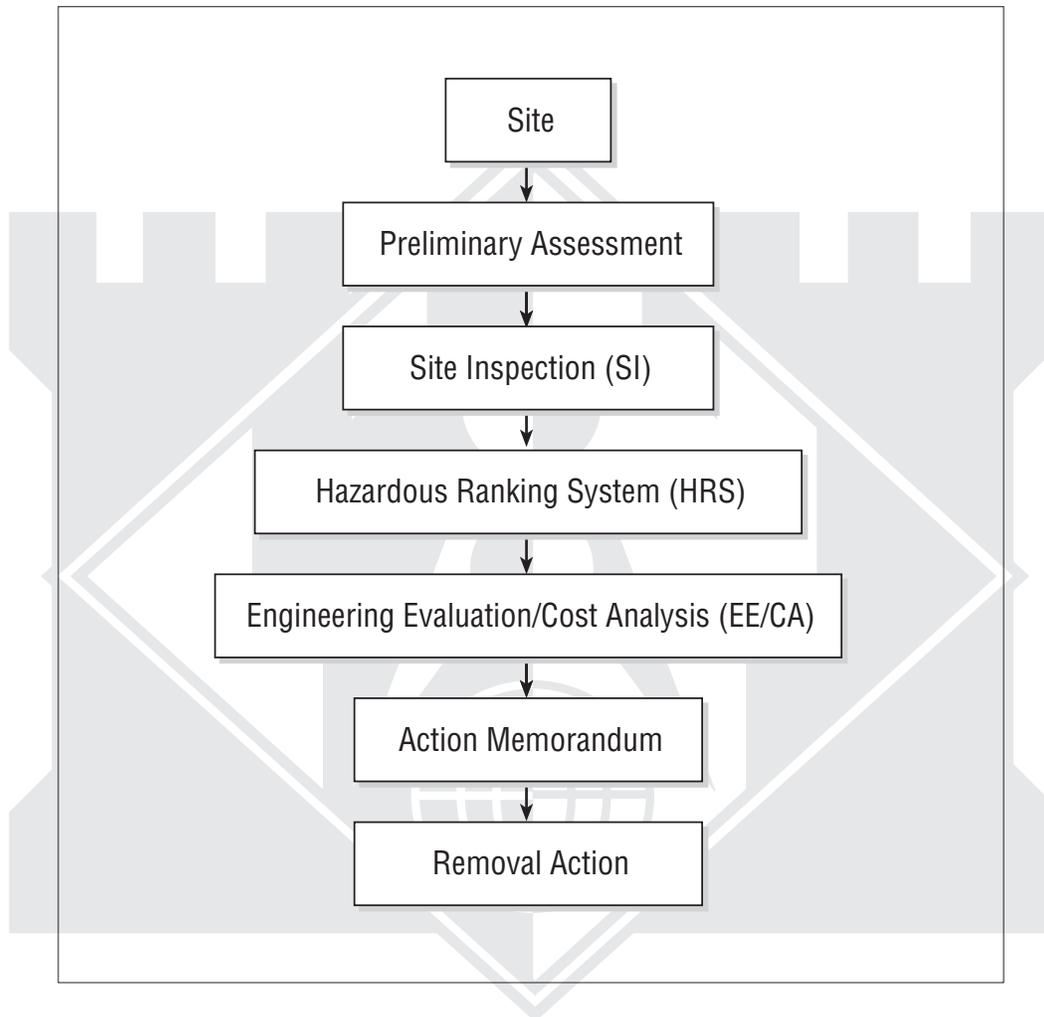
## 2.3 Roles and Relationships of the Agencies and Parties Involved at FUSRAP

The roles and responsibilities of federal and state agencies and private parties at federal facilities like FUSRAP are defined in Section 120 of Superfund, as amended in the Superfund Amendments Reauthorization Act (SARA), and Executive Order Number 12580.

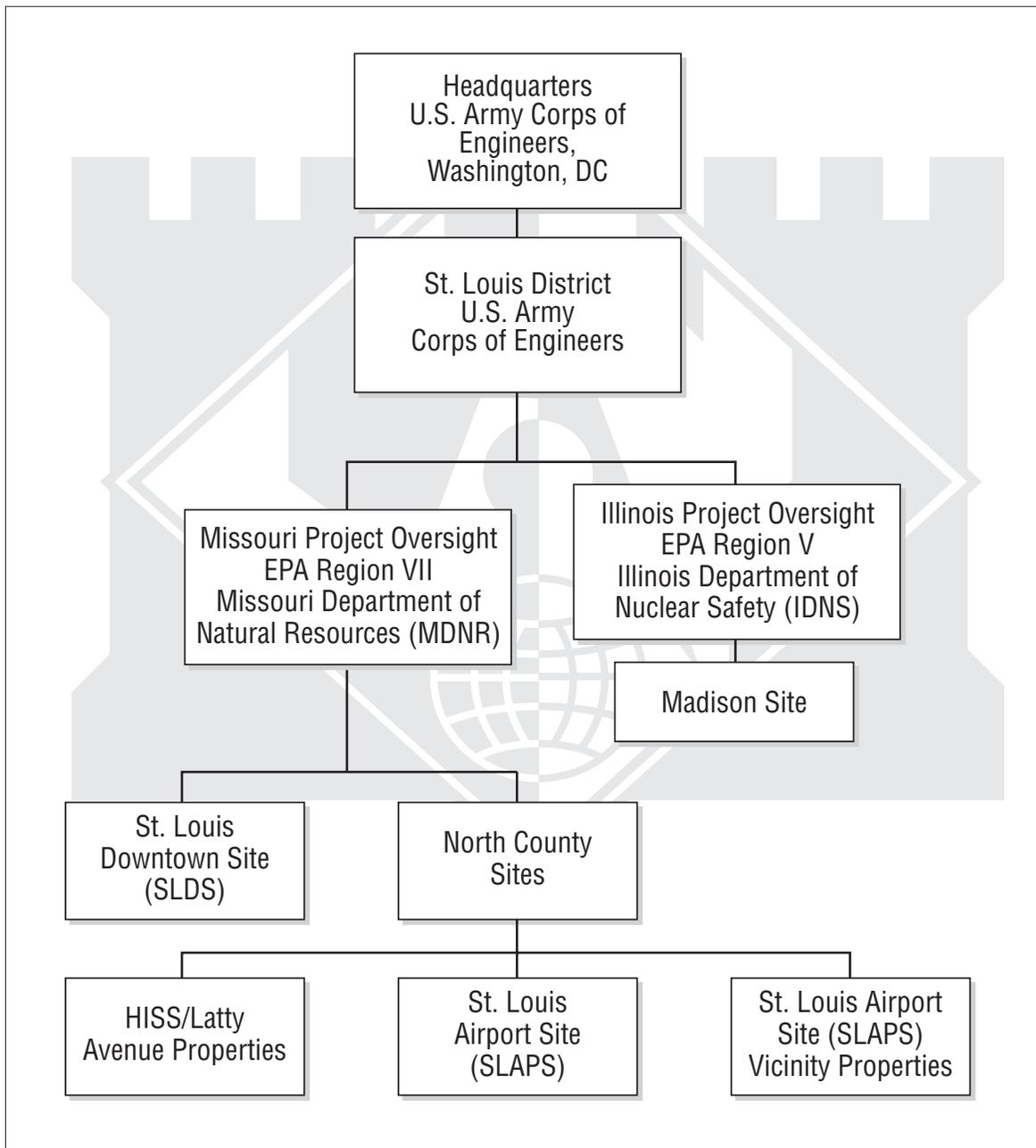
The agencies and parties involved in the Superfund cleanup activities at FUSRAP are described below. The formal agreements between these agencies are described in Section 2.3, and a Superfund project organization chart is presented in Figure 2.3.



**Figure 2.2**  
**The Superfund Removal Process**



**Figure 2.3**  
**Superfund Site Organization**  
**FUSRAP St. Louis Sites**



*U. S. Army Corps of Engineers (USACE)* - A federal agency, which assumed responsibility for FUSRAP from the U.S. Department of Energy (DOE) as directed by Congress. USACE was directed by Congress in the Energy and Water Resources Appropriations Act of 1997 to conduct and execute remedial actions at the FUSRAP sites. USACE functions as the lead agency for FUSRAP actions, but EPA continues to monitor the progress of work at these sites.

*The U. S. Environmental Protection Agency (EPA)* - A federal agency with responsibility delegated by the President to implement the Superfund law and its regulations. EPA is involved in the initiation, development, selection, and implementation of the remedial actions to be taken at FUSRAP. Under a Federal Facilities Agreement (FFA) negotiated with EPA Region VII, the St. Louis District USACE has been designated the lead agency for each of the Missouri St. Louis Sites, with EPA playing a consultative role and providing project oversight to ensure that compliance requirements and schedules are achieved.

*Missouri Department of Natural Resources (MDNR)* - The designated state agency whose responsibilities are to evaluate proposals, recommendations, and plans submitted by USACE in accordance with state or federal laws, regulations, policies, and guidance. MDNR is also providing independent field oversight of remedial activities carried out at Missouri FUSRAP sites. MDNR's participation ensures Missouri citizens that compliance requirements and schedules are achieved and remedial actions are of a high quality standard.

*Illinois Department of Nuclear Safety (IDNS)* - The Illinois State agency which is involved in a consultative role similar to EPA in the initiation, development, selection, and implementation of the remedial response to be undertaken at the Madison Site. IDNS is responsible for reviewing all available data and for ensuring state regulations are integrated into the remedial action process.

*Oversight Committee* - A group of community leaders which serves in a consultative and participatory role with the cleanup of the St. Louis FUSRAP Sites. As a consultant, the Committee provides comments, recommendations, and constructive criticism for the USACE in its efforts to clean up the FUSRAP sites. As participants, members of the Committee are actively involved in their neighborhoods, businesses, and governmental units. They assist the USACE by clarifying community concerns and conveying information to other members of the community to assure that residents are fully informed about cleanup activities. The Oversight Committee ensures that residents' questions are answered to the fullest extent possible.

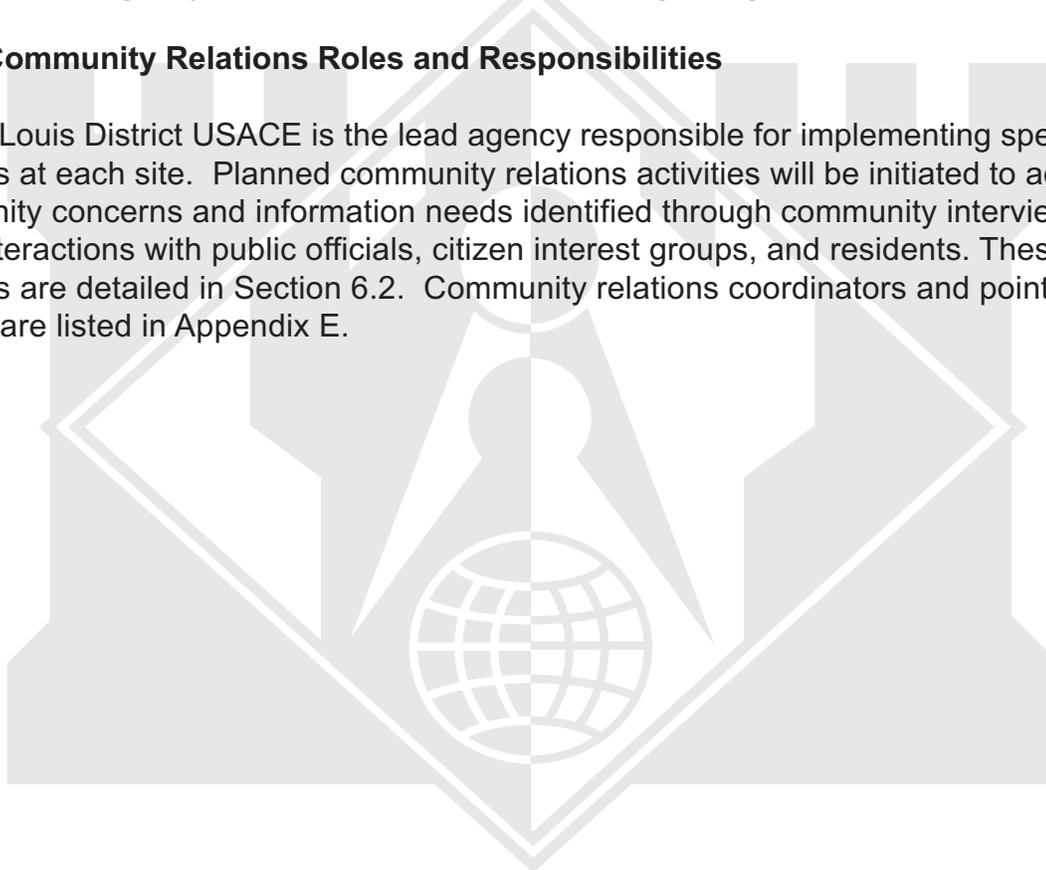


## 2.4 Formal Agreements at the St. Louis Sites

In June 1990, EPA Region VII (Missouri Sites) and DOE signed an FFA as required by Superfund regulations. Although DOE is no longer involved in the work on the FUSRAP sites, USACE honors this agreement. This FFA outlines the scope of investigation/remediation schedule for Missouri FUSRAP sites in St. Louis. The FFA requires an RI/FS be drafted and executed for FUSRAP, with EPA serving in a consultative role, and mandates interagency coordination for all activities regarding the sites.

## 2.5 Community Relations Roles and Responsibilities

The St. Louis District USACE is the lead agency responsible for implementing specific activities at each site. Planned community relations activities will be initiated to address community concerns and information needs identified through community interviews and other interactions with public officials, citizen interest groups, and residents. These activities are detailed in Section 6.2. Community relations coordinators and points of contact are listed in Appendix E.



### 3.0 FUSRAP ST. LOUIS SITE DESCRIPTIONS

The U.S. Army Corps of Engineers (USACE) is conducting remedial investigation/ action at 44 sites in 14 states under the Formerly Utilized Sites Remedial Action Program (FUSRAP). Five of these, constituting the St. Louis Sites, are located in the metropolitan St. Louis area: St. Louis Downtown Site (SLDS) and Vicinity Properties, St. Louis Airport Site (SLAPS) and SLAPS Vicinity Properties (SLAPS VPs), Hazelwood Interim Storage Site (HISS) and Latty Avenue Vicinity Properties (Latty VPs), and the Madison Site.

Figure 3.1 shows the locations of these properties. The following sections describe them and provide background information.

#### 3.1 St. Louis Downtown Site and Vicinity Properties

##### 3.1.1 Location

SLDS is located in an industrial area on the eastern border of St. Louis, approximately 300 feet west of the Mississippi River. The property is about 11 miles southeast of SLAPS and the Lambert-St. Louis International Airport.

SLDS encompasses nearly 45 acres and is presently owned and operated by Mallinckrodt, Inc. (formerly Mallinckrodt Chemical Works). The property includes many buildings and other facilities involved in chemical production (see Figure 3.2).

##### 3.1.2 History

From 1942 to 1957, under contracts with the Manhattan Engineer District (MED) and the Atomic Energy Commission (AEC), the site was used for processing various forms of uranium compounds, for machining and for recovery of uranium metal.

In 1946 the manufacture of uranium dioxide from pitchblende ore began at a newly constructed plant. The pitchblende ore was acquired from the African Metals Company. Because this company retained ownership of the radium content of the ore, it was required that radium-226 and its daughter products be extracted along with the lead content. The radium and lead were precipitated, and the precipitate was sent to the Lake Ontario Ordnance Works in Lewiston, New York and to the Feed Material Production Center in Fernald, Ohio for storage.



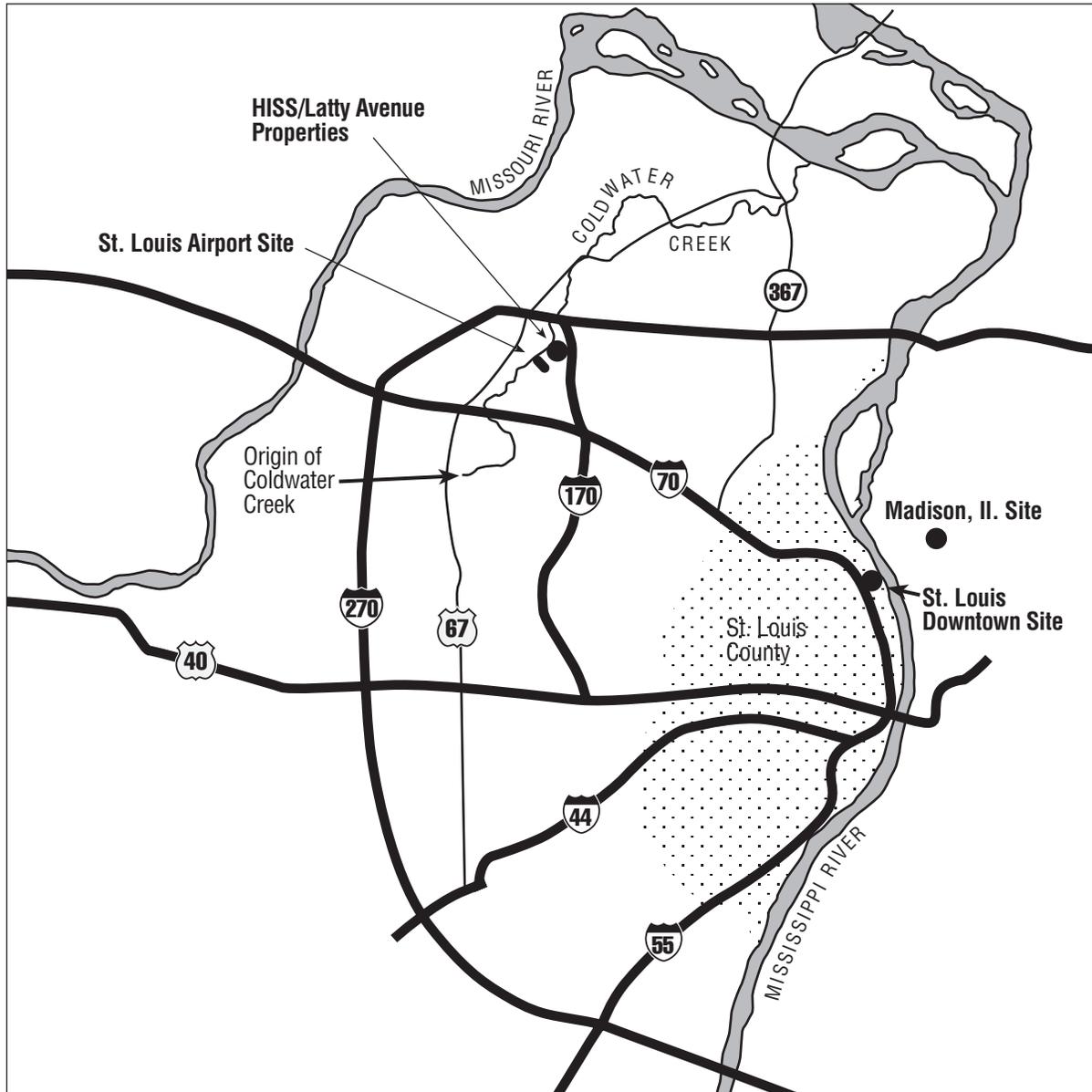


Figure 3.1 Locations of FUSRAP Properties in the St. Louis, Missouri Area



Figure 3.2 Aerial View of the St. Louis Downtown Site (facing east)

Decontamination was performed at two plants from 1948 through 1950. In 1951, the plants were released to Mallinckrodt for use with no radiological restrictions. From 1950 to 1951, an onsite plant was modified and subsequently used as a metallurgical pilot plant for uranium metal operation until it was closed in 1956. This plant was released to Mallinckrodt in 1962 after decontamination work was conducted.

The buildings formerly used under the AEC contract are currently owned by Mallinckrodt. At the time of the MED/AEC operations, the plants were owned by Mallinckrodt and/or leased by AEC. Certain buildings in those plants were also constructed for and owned by AEC. From 1942 through 1945, uranium processing was conducted at Plants 1, 2, and 4. In 1945 operations at Plant 2 were terminated. Some uranium metallurgical research continued at Plant 4 through 1956. From 1945 to 1957, uranium concentrate or ore was processed in buildings at Destrehan Street (Plants 6, 6E, and 7). All uranium extraction operations at the Destrehan Street location ceased in 1957.

When the St. Louis MED/AEC operations were terminated, buildings owned by the government were either demolished or transferred to Mallinckrodt as part of the settlement. Several plants within the Mallinckrodt facility, containing about 60 buildings, were involved; fewer than 20 of these buildings remain. A number of new buildings have been constructed on the property; since 1962, they have been used for the commercial production of chemicals.

In 1994, two committees were established for the purpose of working closely with FUSRAP representatives and serving as a “voice of the people.” These organizations are the St. Louis Radioactive and Hazardous Waste Oversight Committee and the City of St. Louis Mayor’s Advisory Task Force on Radioactive Waste. In 1994, the St. Louis Sites Remediation Task Force (SLSRTF) was made up of members from the above two groups plus other community stakeholders. In 1996, the SLSRTF issued a report detailing the community’s recommendations for cleanup and removal of contaminants in St. Louis under FUSRAP. Eventually, in 1997, the St. Louis Oversight Committee was formed from members of these organization. These organizations have developed strong working relationships with FUSRAP and have been active participants in the decision-making process.

Until 1997, the U.S. Department of Energy (DOE) led the cleanup of the SLDS as part of its responsibility for the cleanup of FUSRAP sites. FUSRAP was transferred from the DOE to the USACE in October 1997 under the Energy and Water Development Appropriations Act. Cleanup activities will follow CERCLA guidelines and will incorporate values of the National Contingency Plan (NCP).



Figure 3.3 provides a chronology illustrating the history of SLDS contamination and cleanup activities from 1942 to date.

### 3.1.3 FUSRAP Work Accomplished to Date

In 1977, Oak Ridge National Laboratory (ORNL) conducted a radiological survey of portions of SLDS at the request of DOE. Results of the ORNL survey showed alpha and beta-gamma contamination levels in excess of limits set by federal guidelines for release of property for use with no radiological restrictions. Elevated gamma radiation levels were measured at selected outdoor locations and in selected buildings. Above-guidance concentrations of uranium and radium-226 were found in subsurface soil samples, and elevated gamma radiation levels were measured in some indoor drains. Radon and radon daughter concentrations in three buildings were in excess of federal guidelines for nonoccupational radiation exposure.

Radiological characterization, which consisted of sampling and analyses to determine the nature and extent of contamination, was performed at SLDS in 1988 and 1989. Radiological characterization activities were conducted during 1990 on six properties adjacent to Mallinckrodt to determine whether contamination extended beyond the Mallinckrodt property boundaries.

The scope of interim removal actions at SLDS was outlined in an Engineering Evaluation/Cost Analysis (EE/CA) prepared in 1991 by DOE. The EE/CA was reviewed by the public, and DOE prepared a Responsiveness Summary to address the comments received. Subsequently, limited removal action activities were undertaken at SLDS.

The purpose of these removal actions was to minimize human exposure to contaminated material and allow for consolidation of the impacted materials at temporary onsite storage areas.

Five interim actions were performed between 1995 and 1998:

1. In 1995, 15,043 cubic yards of contaminated soil was excavated from the Mallinckrodt Plant 10 area and shipped offsite for disposal at the Envirocare facility in Utah.
2. In 1996, 750 cubic yards of contaminated soil was excavated from the City Property, Riverfront Trail area, and shipped offsite for disposal at the Envirocare facility in Utah.





# The St. Louis Downtown Site Contaminant Chronology

FUSRAP

3-6

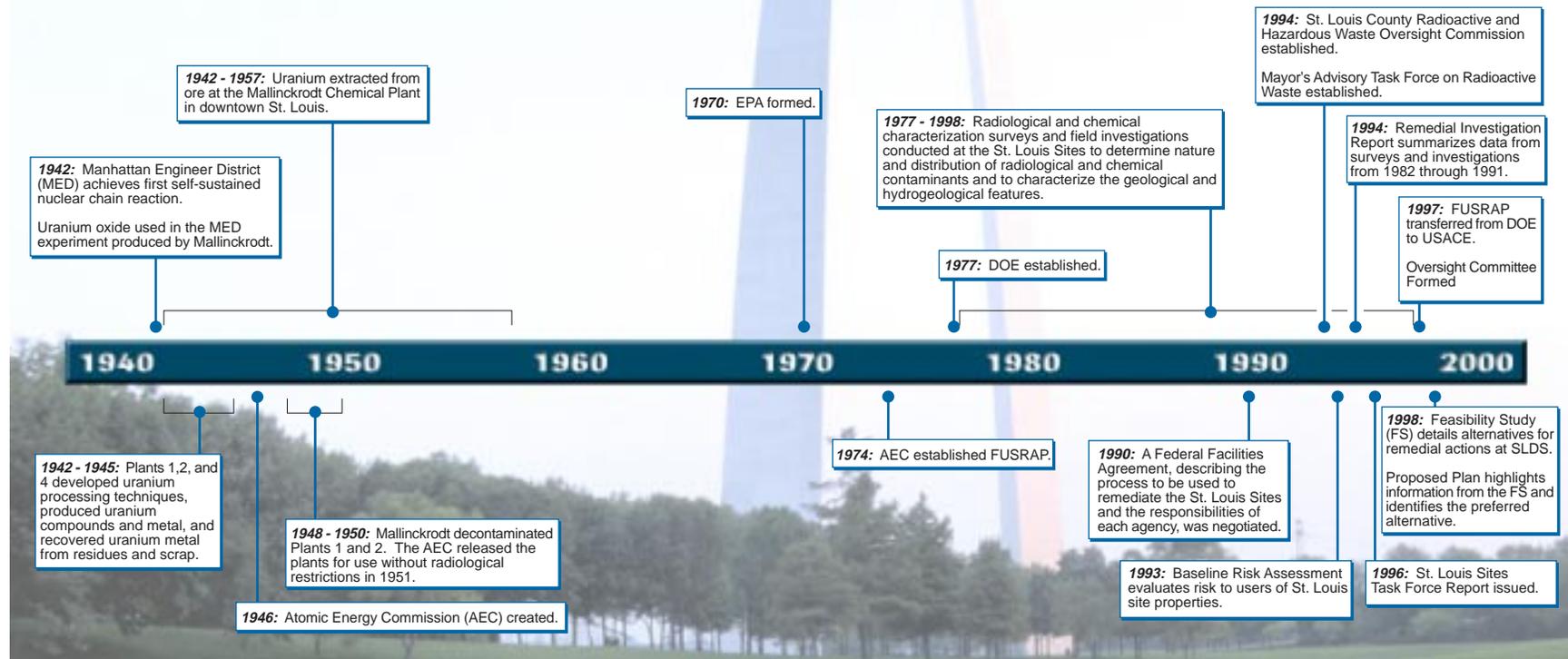


Figure 3.3 St. Louis Downtown Site and Vicinity Properties Chronology

3. In 1996, the 50-series buildings on the Mallinckrodt property were decontaminated and demolished. Contaminated materials were transported by covered gondola cars for disposal at the Envirocare facility in Utah. Brick and cinder blocks were crushed and piled onsite to await disposition.
4. In 1997, Plant 6 and 7 Buildings were decontaminated and demolished. Again, contaminated materials were transported by covered gondola cars for disposal at the Envirocare facility in Utah. Brick and cinder blocks were crushed and piled onsite to await disposition.
5. In 1998, Building K was decontaminated by the government and demolished by Mallinckrodt. Contaminated materials were transported by covered gondola cars for disposal at the Envirocare facility in Utah.

Since assuming responsibility for FUSRAP in 1997, the St. Louis District USACE has based their approach to cleaning up SLDS on data and findings contained within four key documents: The Baseline Risk Assessment, the Initial Screening of Alternatives, the Remedial Investigation (RI), and the Feasibility Study (FS). A Proposed Plan detailing USACE's preferred alternative was issued in April 1998. The final cleanup remedy was outlined in a Record of Decision (ROD), which was approved by the EPA in August 1998.

## **3.2 St. Louis Airport Site**

### **3.2.1 Location**

SLAPS is a 21.7-acre property in St. Louis County, approximately 15 miles from downtown St. Louis. SLAPS is immediately north of the Lambert-St. Louis International Airport and is bounded by the Norfolk and Western Railroad and Banshee Road on the south, Coldwater Creek on the west, and McDonnell Boulevard and adjacent recreational fields on the north and east.

The Coldwater Creek basin lies in the northern part of St. Louis County. The 47-square-mile watershed is elongated, with a 19.5-mile-long main channel and relatively short tributary streams (see Figures 3.4, 3.5, and 3.6). Coldwater Creek generally flows northward from Overland; through Breckenridge Hills and St. Ann; under Lambert-St. Louis International Airport; through Hazelwood, Florissant, and unincorporated St. Louis County; and along the northern edge of Black Jack before joining the Missouri River. The mouth of Coldwater Creek is at mile 6.9 on the Missouri River.



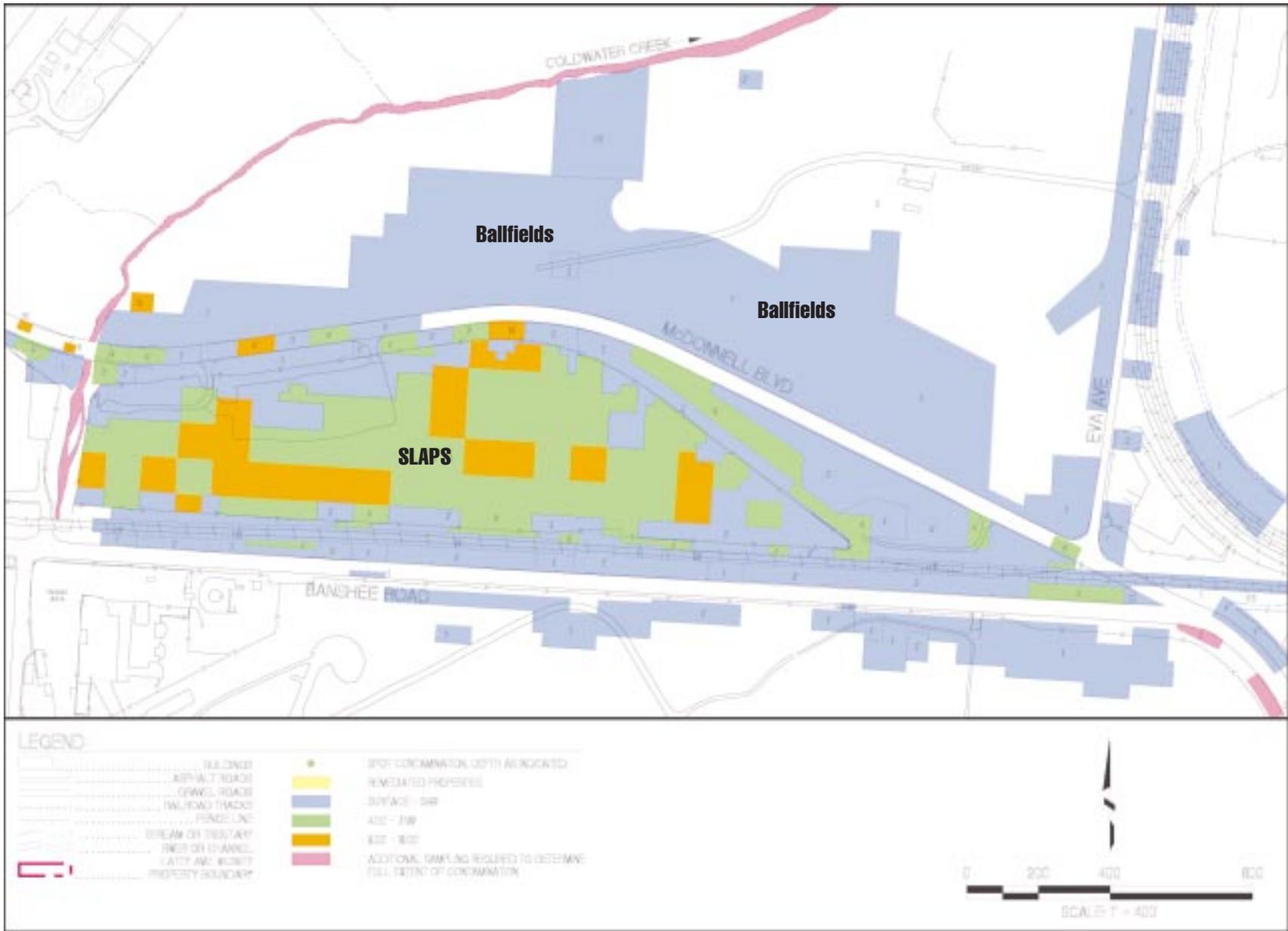
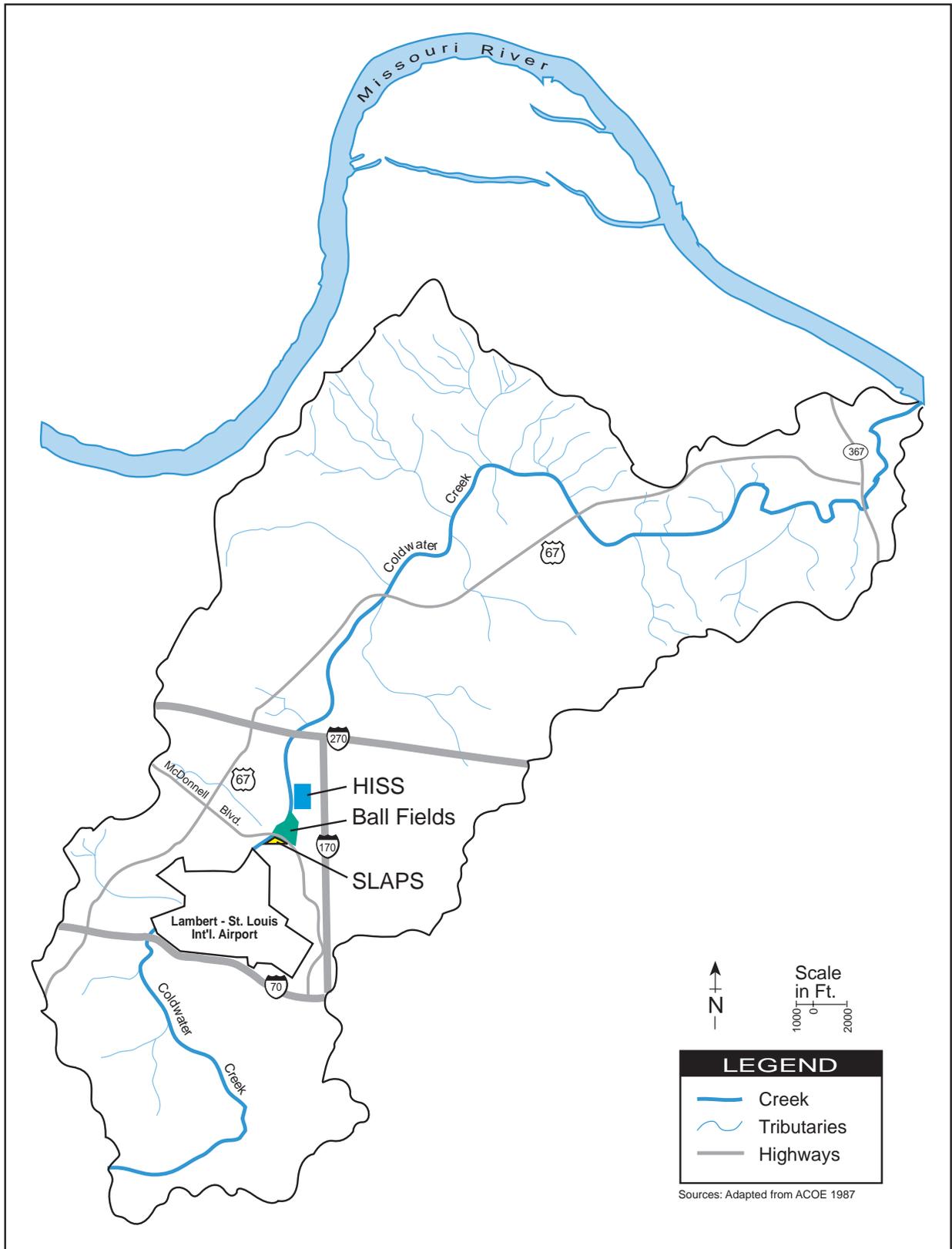


Figure 3.4 St. Louis Airport Site and the Ballfields Cleanup Area



Figure 3.5 Aerial view of the St. Louis Airport Site and the Ballfields Cleanup Area (facing west)



FUS St. Louis 06/97

Figure 3.6 Coldwater Creek Floodplain

Parks along Coldwater Creek and downstream from SLAPS include Fort Bellefontaine County Park, Coldwater Creek County Park, Black Jack Park, Wedgewood Park, St. Ferdinand Park, Duchesne Park, St. Cin Park, and Khoury Park. Fort Bellefontaine County Park is a 36-acre park on a landfill on the left bank of Coldwater Creek between stream miles 1.6 and 1.2; it is in unincorporated St. Louis County immediately east of Lewis and Clark Boulevard. Coldwater Creek County Park is a 234-acre park that lies principally on the right bank of the stream and extends from mile 1.25 to 0.0. The park is being developed to display and enhance the ecological and other natural features of the area. It includes extensive trails and limestone structures that were erected by the Works Progress Administration in the 1930s, as well as high-quality areas of climax flora. Black Jack Park, between miles 5.3 and 4.8, is in the city of Black Jack between Old Halls Ferry Road and Jamestown Road. Wedgewood Park, in St. Louis County on Lindbergh Boulevard and New Halls Ferry Road, is located on Coldwater Creek between miles 7.4 and 7.0. St. Ferdinand Park is in Florissant, north of Lindbergh Boulevard from mile 7.4 to 7.0. St. Ferdinand Shrine, at mile 10.4, is considered a historic landmark. Duchesne Park, also in Florissant, is between I-270 and Lindbergh Boulevard between miles 11.2 and 11.1. On mile 11.7 to 11.6 in Hazelwood just off I-270 (Dunn Road) is St. Cin Park. Khoury Park, also known as the Ballfields (leased by Berkeley from the City of St. Louis), is located between miles 13.5 and 13.2 in Berkeley, north of McDonnell Boulevard.

Land use adjacent to the property is varied. More than two-thirds of the land within a half mile of the property is used for transportation-related purposes (primarily the airport). Land adjacent to the property is generally used for transportation and commercial functions.

### 3.2.2 History

In 1946, MED acquired the 21.7-acre tract of land now known as SLAPS to store residues from uranium processing at the Mallinckrodt facility in St. Louis.

The uranium processing, conducted under a contract with MED/AEC, continued through 1957; the resulting radioactive residues accumulated at SLAPS. These materials included pitchblende raffinate residues, radium-bearing residues, barium sulfate cake, Colorado raffinate residues, and contaminated scrap. Most of the residues were stored in bulk on open ground. Some contaminated materials and scrap were buried at the western end and in other parts of the property. To limit direct radiation exposure of the public, the property was fenced to prevent casual entry.



In 1966 and 1967, most of the stored residues were sold and removed from SLAPS. Onsite structures were razed, buried on the property, and covered with 1 to 3 feet of clean fill material. Although these activities reduced the surface dose rate to acceptable levels, buried deposits of uranium-238, radium-226, and thorium-230 remain on the property.

In 1973, the tract was transferred by quitclaim deed from AEC to the City of St. Louis. The 1984 Energy and Water Development Appropriations Act (Public Law 98-360) authorized DOE to reacquire the property from the city for use as a permanent disposal site for the waste already on the property, contaminated soil in the surrounding ditches, and the waste from HISS, approximately a half mile to the north. In 1990, the City of St. Louis offered to transfer the SLAPS property back to DOE under the condition that a permanent disposal cell for radioactive wastes would not be constructed on the site.

From 1976 through 1978, ORNL conducted a radiological investigation of SLAPS. This survey indicated elevated concentrations of uranium-238 and radium-226 in drainage ditches north and south of McDonnell Boulevard. In 1981, the drainage ditches were designated for remedial action under FUSRAP. In October 1989, EPA placed SLAPS on the NPL, thus requiring the cleanup to proceed under the guidelines of CERCLA/SARA.

In 1990, the St. Louis Board of Aldermen adopted a plan to transfer the SLAPS property to DOE. DOE had previously stated that the property would be used as a storage site for contaminated soil from the cleanup of the St. Louis Sites. After the site was placed on the NPL, DOE worked closely with EPA to determine how the site would be cleaned up and where the contaminated soil would be stored. In July 1990, DOE and EPA signed an agreement that established an environmental review process and schedule for the remediation of SLAPS, SLDS, and the Latty Avenue properties. The process required DOE to evaluate alternatives for waste management, one of which was storage at SLAPS. DOE declined acceptance of the SLAPS property from the city until the environmental review process was conducted.

Until 1997, DOE was the lead agency responsible for the cleanup of SLAPS. In October 1997, FUSRAP was transferred from the DOE to the USACE by Congress through the Energy and Water Development Appropriations Act. Since that transition was effected, SLAPS has fallen under the responsibility of the St. Louis District USACE.

Figure 3.7 provides a chronology illustrating the history of SLAPS contamination and cleanup activities from 1942 to date.





# The St. Louis Airport Site Contaminant Chronology

FUSRAP

3-13

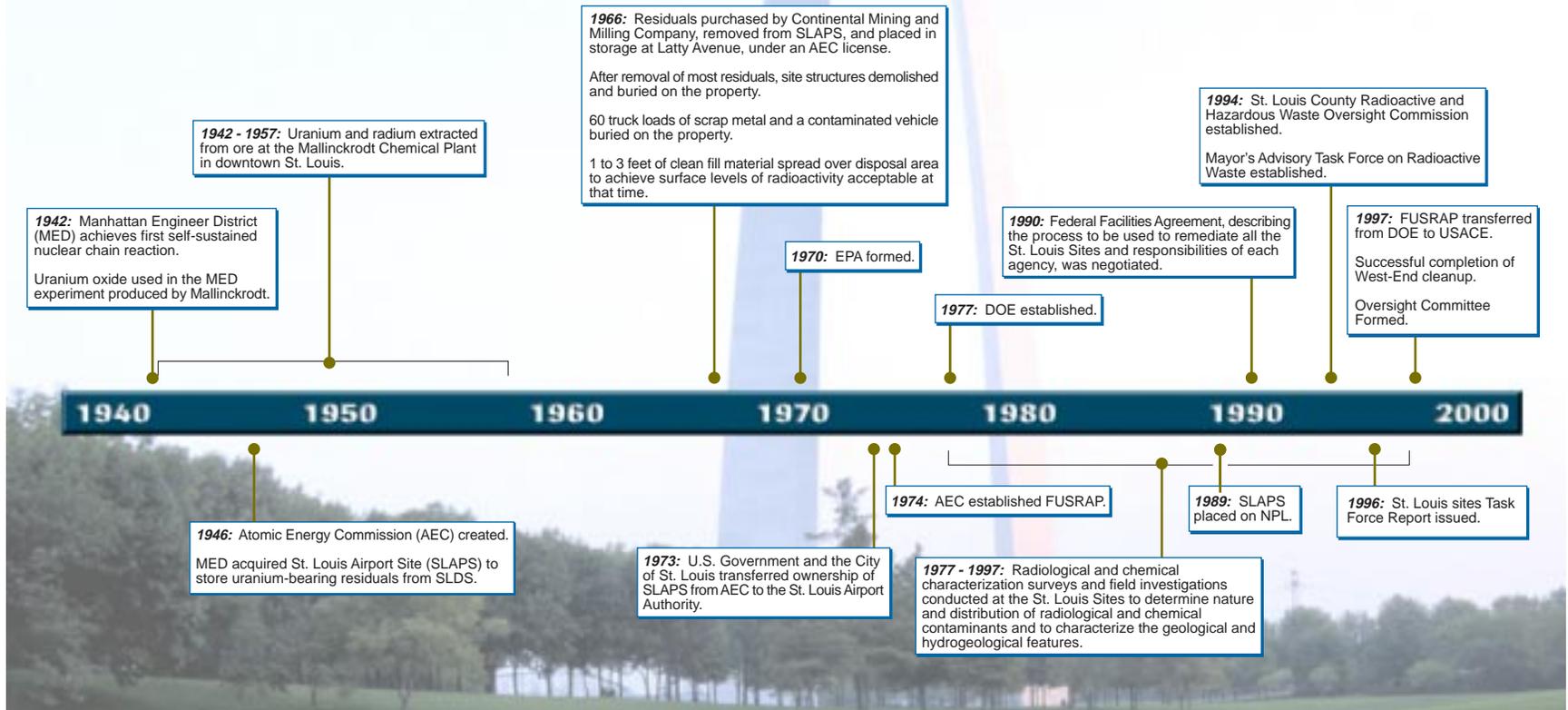


Figure 3.7 St. Louis Airport Site and Vicinity Properties Chronology

### 3.2.3 FUSRAP Work Accomplished to Date

In 1982 a preliminary radiological characterization of the ditches on either side of McDonnell Boulevard and portions of Coldwater Creek was performed. This survey established the vertical and horizontal limits of uranium-238 and radium-226 contamination but did not define the limits of thorium-230.

In 1985, erosion on the western side of SLAPS along Coldwater Creek necessitated emergency maintenance. Sloughing and seepage were causing erosion of contaminated fill and loess (soil) materials into the creek. The problem was temporarily corrected by installing a gabion wall (constructed of rock-filled wire baskets) along the western edge of the property.

During 1986, boreholes were drilled at SLAPS and SLAPS VPs to define the nature and extent of contamination and to determine geologic conditions. Also in 1986, further surveys by ORNL identified additional areas of contamination along the shoulders of McDonnell Boulevard, Hazelwood Avenue, and Pershall Road. This contamination probably resulted from spillage from trucks hauling materials from SLAPS to the location now known as HISS, during the 1960s. Further investigation of transportation routes was conducted in 1987 and 1988, and a chemical characterization of SLAPS was completed in 1987. Characterization studies of the section of Coldwater Creek from Banshee Road to Old Halls Ferry Road completed during 1989 and 1990, revealed radioactive materials in the sediments in the Coldwater Creek channel.

Quarterly environmental monitoring is conducted at SLAPS to test air, groundwater, surface water, and direct radiation. Additional characterization was conducted during summer and fall 1992. This work was reviewed by and/or coordinated with EPA.

Surveys and field investigations were conducted at SLAPS from 1977 through 1997. The purpose of these studies was to help determine the extent of chemical and radioactive contamination and to review the geology and hydrology of the site.

Based on the results of these studies, the St. Louis District USACE prepared a draft EE/CA that identified potential cleanup measures to be used until a comprehensive cleanup could be achieved. This analysis evaluated several possible North County Properties interim cleanup measures and included the Ballfields property as part of the SLAPS and the SLAPS VPs cleanup. The draft EE/CA was presented for public comment and regulatory review at a Public Meeting on March 17, 1998.



The selected interim cleanup measure will be just one part of a comprehensive cleanup program for SLAPS. Comprehensive cleanup measures will be selected after completing the RI/FS study process. This process is required by CERCLA and will result in a ROD that identifies how SLAPS will be cleaned.

In October 1997, FUSRAP was transferred from DOE to USACE under the Energy and Water Appropriations Act. Cleanup activities will follow CERCLA guidelines and will incorporate NCP values.

An interim removal action for SLAPS began in 1998 and will continue until the action is completed. The St. Louis District, USACE's primary goals for this cleanup are to restrict the release of contaminated materials and minimize potential impacts to human health, wildlife, and the environment. Their secondary goal is to restore SLAPS for potential reuse.

### **3.3 St. Louis Airport Site Vicinity Properties**

#### **3.3.1 Location**

The SLAPS VPs are located in the cities of Hazelwood and Berkeley, Missouri. These properties (totaling approximately 80) include Coldwater Creek and its vicinity properties to the west; adjacent ball fields to the north and east; Norfolk and Western Railroad properties adjacent to Coldwater Creek; Banshee Road to the south; ditches to the north and south; and St. Louis Airport Authority property to the south. Also included are the transportation routes (haul roads) at the following locations: Latty Avenue, McDonnell Boulevard, Pershall Road, Hazelwood Avenue, Eva Avenue, Frost Avenue, and other miscellaneous vicinity properties.

#### **3.3.2 History**

Low-level radioactive contamination at the SLAPS VPs is linked to both the St. Louis Airport Site and the Latty Avenue Properties. In 1966, Continental Mining and Milling Company of Chicago purchased uranium-bearing residues from MED and removed them from SLAPS. The company placed the residues in storage at Latty Avenue under Atomic Energy Commission license. Over time, residues migrated from other sites or were deposited when waste was hauled along transportation routes, and the soils and sediments at the SLAPS VPs became contaminated. The contamination was estimated at 195,000 cubic yards in 1996. Commercial enterprises, private residences, or local governments own the SLAPS VPs.



### 3.3.3 FUSRAP Work Accomplished to Date

Approximately 30 of the SLAPS VPs have been remediated to date. In October 1997, FUSRAP was transferred from DOE to USACE under the Energy and Water Appropriations Act. Cleanup activities will continue to follow CERCLA guidelines and will incorporate NCP values.

The St. Louis District, USACE's primary goals for this cleanup are to restrict the release of contaminated materials and minimize potential impacts to human health, wildlife, and the environment. Their secondary goal is to restore the SLAPS VPs for potential reuse.

## 3.4 Hazelwood Interim Storage Site and Latty Avenue Vicinity Properties

### 3.4.1 Location

The HISS and the Latty Avenue Vicinity Properties (Latty VPs) are in northern St. Louis County within the city limits of Hazelwood (see Figures 3.8 and 3.9). HISS is located at 9200 Latty Avenue, 3.2 miles northeast of the control tower of the Lambert-St. Louis International Airport and approximately a half mile northeast of SLAPS. HISS is separated from the western half of 9200 Latty Avenue by a chain link fence. Both properties are privately owned. Six VPs are adjacent to Latty Avenue between Coldwater Creek and Hanley Road; some are within the corporate limits of the City of Berkeley.

Land use near the properties is primarily industrial; other uses are transportation-related, commercial, and residential. Some land in the vicinity is vacant. The residential areas nearest the property are approximately 0.3 mile to the east in Hazelwood. The residences in Berkeley are southeast of the properties.

### 3.4.2 History

In early 1966, ore residues and uranium- and radium-bearing process wastes that had been stored at SLAPS were purchased by the Continental Mining and Milling Company and moved to a storage site on Latty Avenue. These wastes had been generated at the Mallinckrodt plant in St. Louis from 1942 through the late 1950s under contracts with MED/AEC. Residues on the property at that time included 74,000 tons of Belgian Congo pitchblende raffinate containing approximately 13 tons of uranium; 32,500 tons of Colorado raffinate containing roughly 48 tons of uranium; and 8,700 tons of leached barium sulfate containing about 7 tons of uranium. The Commercial Discount Corporation of Chicago, Illinois, purchased the residues in



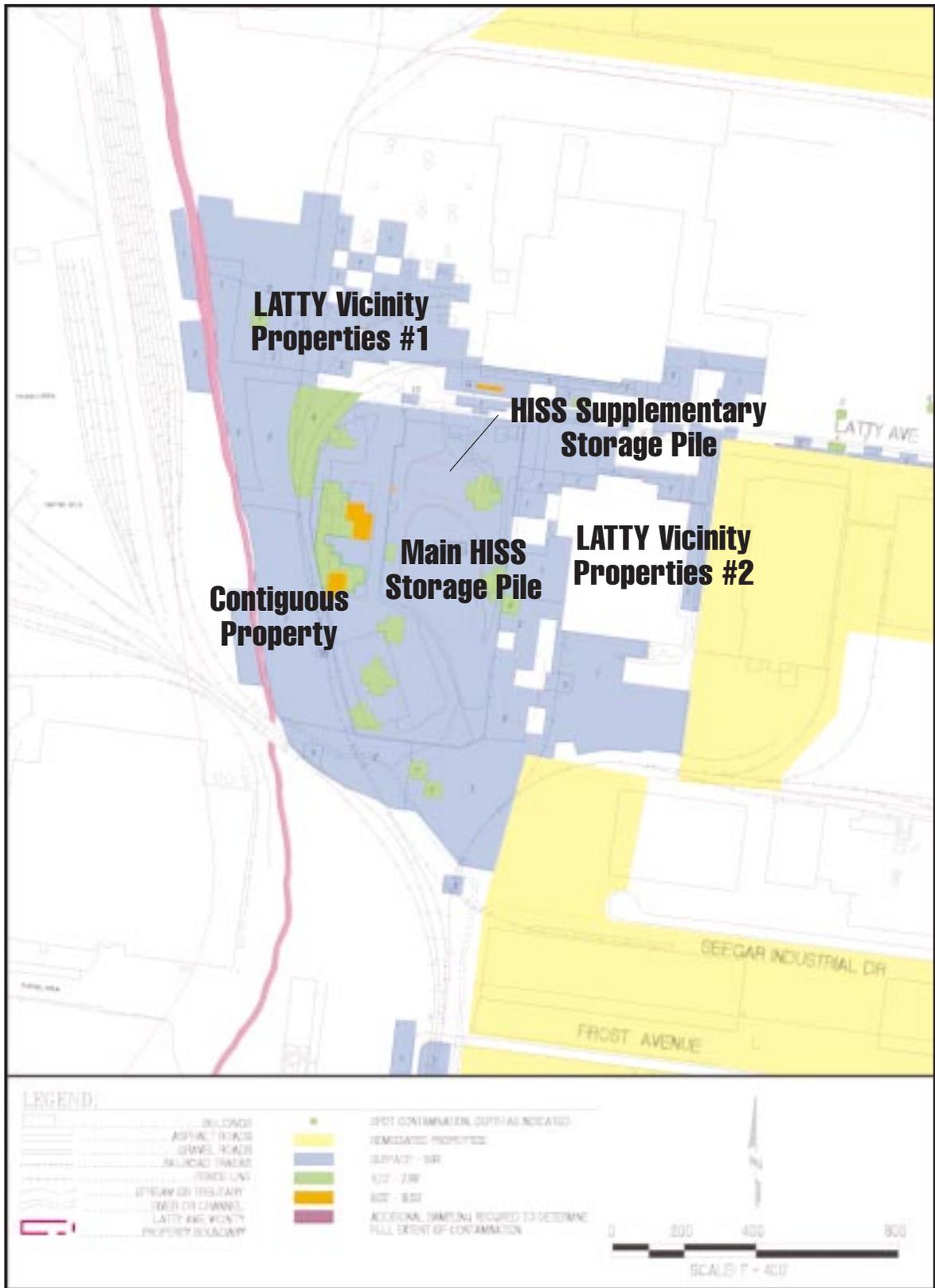


Figure 3.8 Hazelwood Interim Storage Site Piles and Latty Avenue Vicinity Properties



Figure 3.9 Hazelwood Interim Storage Site Piles and Latty Avenue Vicinity Properties (facing south)

January 1967; much of the material was then dried and shipped to Canon City, Colorado. The material remaining at the Latty Avenue storage site was sold to Cotter Corporation in December 1969. From August through November 1970, Cotter Corporation dried some of the remaining residues and shipped them to its mill in Canon City. In December 1970, an estimated 10,000 tons of Colorado raffinate and 8,700 tons of leached barium sulfate remained at the Latty Avenue properties.

In April 1974, the Nuclear Regulatory Commission (NRC) was informed by Cotter Corporation that the remaining Colorado raffinate had been shipped in mid-1973 to Canon City without drying and that the leached barium sulfate had been diluted with 12 to 18 inches of soil and transported to a landfill in St. Louis County.

Before the present owner occupied the property, ORNL performed a radiological characterization. Thorium and radium contamination in excess of federal guidelines was found in and around the buildings and in the soil to depths of 18 inches. Subsequently, in preparing the property for use, the owner demolished one building, excavated portions of the western half of the property, paved certain areas, and erected several new buildings. Material excavated during these activities (approximately 13,000 cubic yards) was piled on the eastern portion of the property.

An additional 14,000 cubic yards of contaminated soil, from cleanup along Latty Avenue in 1984 and 1985 and from an area used for office trailers and a decontamination pad, was added to the pile. Approximately 4,600 cubic yards of contaminated soil was stored adjacent to the existing pile; the soil had been excavated during road and drainage improvements along Latty Avenue in support of a municipal storm sewer project. A total of approximately 32,000 cubic yards of contaminated soil is stored at the property.

In 1981, Oak Ridge Associated Universities conducted a radiological characterization of the pile and surveyed portions of the northern and eastern vicinity properties for radioactivity. Levels of contamination (principally thorium-230) similar to those on the pile were found in both areas. As a follow-up to this survey, ORNL conducted a detailed radiological survey of the northern and southern shoulders of Latty Avenue in January and February 1984; results indicated that contamination in excess of federal guidelines was present along the road beyond Hazelwood Avenue. Properties adjacent to HISS were also found to be contaminated in excess of guidelines.

A decontamination research and development project was conducted, under the authority of the 1984 Energy and Water Appropriations Act (Public Law 98-360), at four sites throughout the nation, including 9200 Latty Avenue and



properties in its vicinity. Subsequently, Congress added the Latty Avenue properties to FUSRAP in order to expedite decontamination.

In October 1989, EPA placed the HISS properties on the National Priorities List (NPL). This list required the cleanup to proceed under the guidelines of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA).

In July 1990, DOE and EPA Region VII signed a Federal Facilities Agreement that established a procedure and schedule for remediation of the Latty Avenue properties.

In 1994, two citizen committees were established for the purpose of working closely with FUSRAP representatives and serving as a “voice of the people.” These organizations are the St. Louis Radioactive and Hazardous Waste Oversight Committee and the City of St. Louis Mayor’s Advisory Task Force on Radioactive Waste. In 1994, the St. Louis Sites Remediation Task Force (SLSRTF) was made up of members from the above two groups plus other community stakeholders. In 1996, the SLSRTF issued a report detailing the community’s recommendations for cleanup and removal of contaminants in St. Louis under FUSRAP. Eventually, in 1997, the St. Louis Oversight Committee was formed. These organizations have developed strong working relationships with FUSRAP and have been active participants in the decision-making process.

In 1996, the owner of 9150 Latty Avenue, located to the east of HISS, expanded the facility and stockpiled about 8,000 cubic yards of contaminated soil. This stockpile, known as the Eastern Pile, is located on the southwestern corner of the property.

HISS and the Latty Avenue VPs were part of the DOE FUSRAP until it was transferred to the USACE in October 1997, under the Energy and Water Appropriations Act. Cleanup activities will follow CERCLA guidelines and will incorporate NCP values.

Figure 3.6 provides a chronology illustrating the history of the HISS and Latty VPs contamination and cleanup activities from 1942 to date.

### **3.4.3 FUSRAP Work Accomplished to Date**

Phase I remedial activities in 1984 consisted of clearing the site and selected adjacent properties, constructing a vehicle decontamination facility, installing the perimeter fence, excavating and backfilling the edges and shoulders of Latty Avenue, and consolidating and covering the contaminated soil storage pile. The 1984 remedial action resulted in the addition of 14,000 cubic yards of



contaminated soil to the HISS pile.

From July 1984 through June 1985, Phase I remedial activities at Latty Avenue consisted of cleanup, surveying services, material testing, and monitoring well installation. In spring 1987, a radiological characterization was performed on Latty Avenue vicinity properties from I-170 to Coldwater Creek. Late in 1987, a chemical characterization was completed at the HISS and Futura Properties.

A complete radiological characterization, which consisted of sampling and analysis to determine the nature and extent of contamination, was conducted at HISS, Coldwater Creek, and about 70 haul road properties. Contamination on the haul road properties was found on road shoulders and adjacent properties. Contamination was shallow (less than one foot deep), and concentrations were low. Although characterization was essentially complete, some additional investigation in the creek and along haul roads was still required.

Collection and analysis of soil from a 6.3-mile area of Coldwater Creek from Pershall Road to Old Halls Ferry was completed in 1989. Low-level contamination was found at some sampling locations. A portion of this work was funded by the USACE. The remaining 5.9-mile section of the creek from Old Halls Ferry Road to the Missouri River was sampled in 1990.

Quarterly environmental monitoring is conducted at HISS to test air, groundwater, surface water, and direct radiation. Additional characterization was conducted during the summer and fall of 1992. This work was reviewed by and/or coordinated with the Missouri Department of Natural Resources (MDNR). A proposed interim removal action for the SLAPS VPs and Latty Avenue Vicinity Properties was detailed in an EE/CA-Environmental Assessment (EE/CA-EA) released to the public in spring 1992.

Surveys and field investigations were conducted at HISS from 1977 through 1997. These studies determined the nature and distribution of chemical and radioactive contaminants and reviewed the geology and hydrology of the site.

Based on the results of these studies, the St. Louis District USACE prepared a draft EE/CA that identified potential cleanup measures to be used until a comprehensive cleanup can be achieved. This analysis evaluated several possible interim cleanup measures and included VP No. 2 and soils on three Latty Avenue properties as part of the HISS cleanup. The draft EE/CA was presented for public comment and regulatory review at a Public Meeting on March 17, 1998.





US Army Corps  
of Engineers®,  
St. Louis District

# Hazelwood Interim Storage Site Contaminant Chronology

FUSRAP

3-22

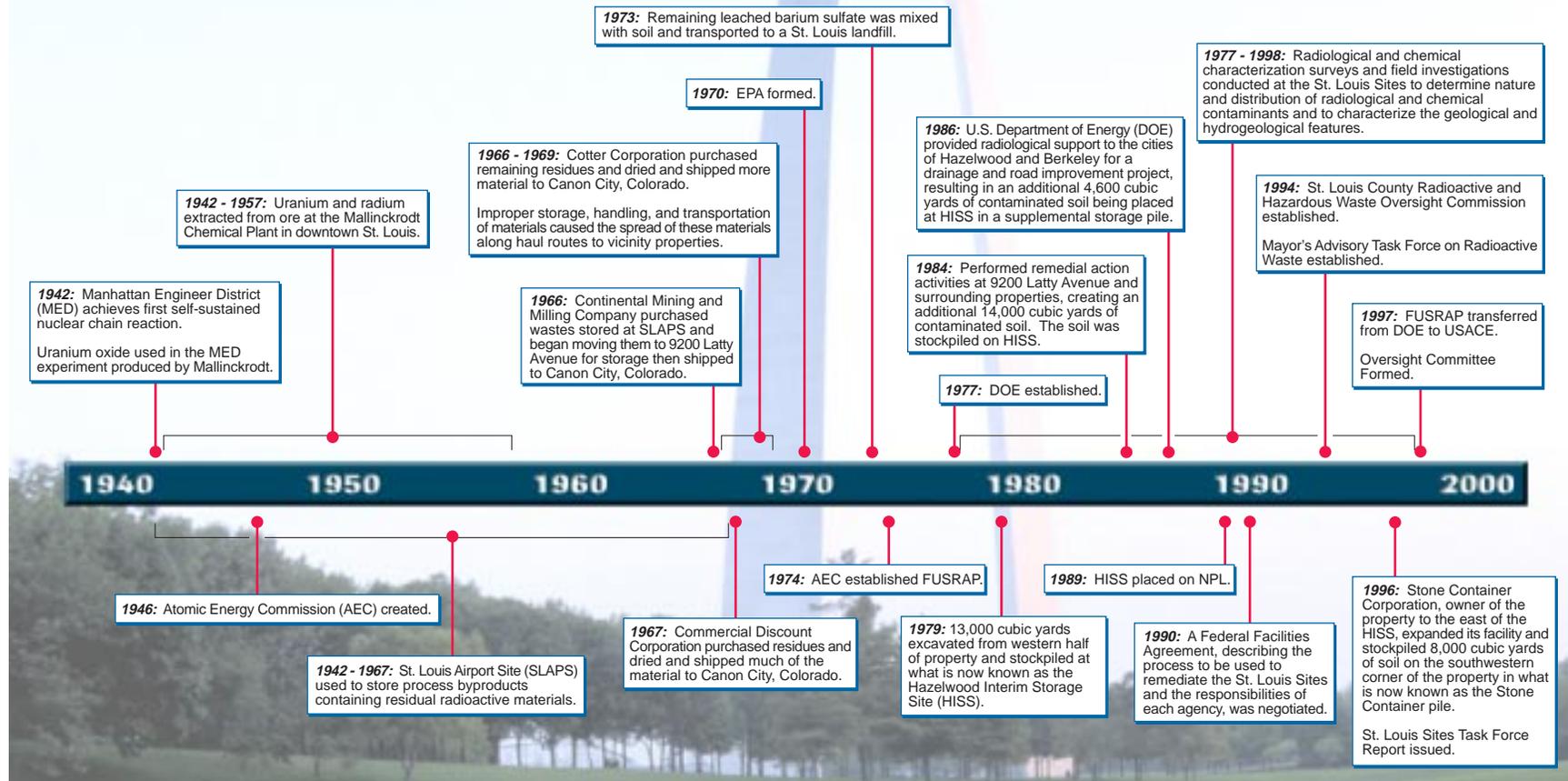


Figure 3.10 Hazelwood Interim Storage Site and Latty Avenue Vicinity Properties Chronology

The selected interim cleanup measure is just one part of a comprehensive cleanup program for HISS. Comprehensive cleanup measures will be selected after completing the RI/FS process. This process is required by CERCLA and will result in a ROD that identifies how HISS will be cleaned.

An interim removal action for HISS began in 1998. The St. Louis District USACE's primary goals for this cleanup are to restrict the release of contaminated materials and to minimize potential impacts to human health, wildlife, and the environment. Their secondary goal is to restore HISS for potential reuse.

### 3.5 Madison Site

#### 3.5.1 Location

The Madison Site is located at an active industrial site across the Mississippi River from SLDS (Figures 3.11 and 3.12) in Illinois. The site is located at College and Weaver Streets in Madison. It consists of two buildings owned by a component manufacturer in Madison, Illinois.

#### 3.5.2 History

The Madison Site was part of an operating facility formerly known as Dow Chemical Company, a division of Dow Metal Products. The firm worked with Mallinckrodt Chemical to support Atomic Energy Commission needs during the late 1950s and early 1960s. A uranium extrusion and rod-straightening facility was operated at the site. A 1989 survey indicated Building 6 contained low-level radioactive contamination in dust located on overhead surfaces. About two cubic yards of contaminated uranium/thorium dust exceeding guidelines was identified from MED/AEC operations on roof beams at the facility.

In 1992, the Madison Site was added to the FUSRAP list of sites slated for cleanup. The FUSRAP site is located within a limited area of an active facility. The plant is in heavy production use, extruding aluminum and magnesium metal. As cleanup is ultimately necessary, the operator is working with USACE to identify an available timeframe for cleanup. It is the intent of the facility owner and USACE that production operations will not be disrupted during cleanup, and that the safety of maintenance and production personnel continues to be protected.



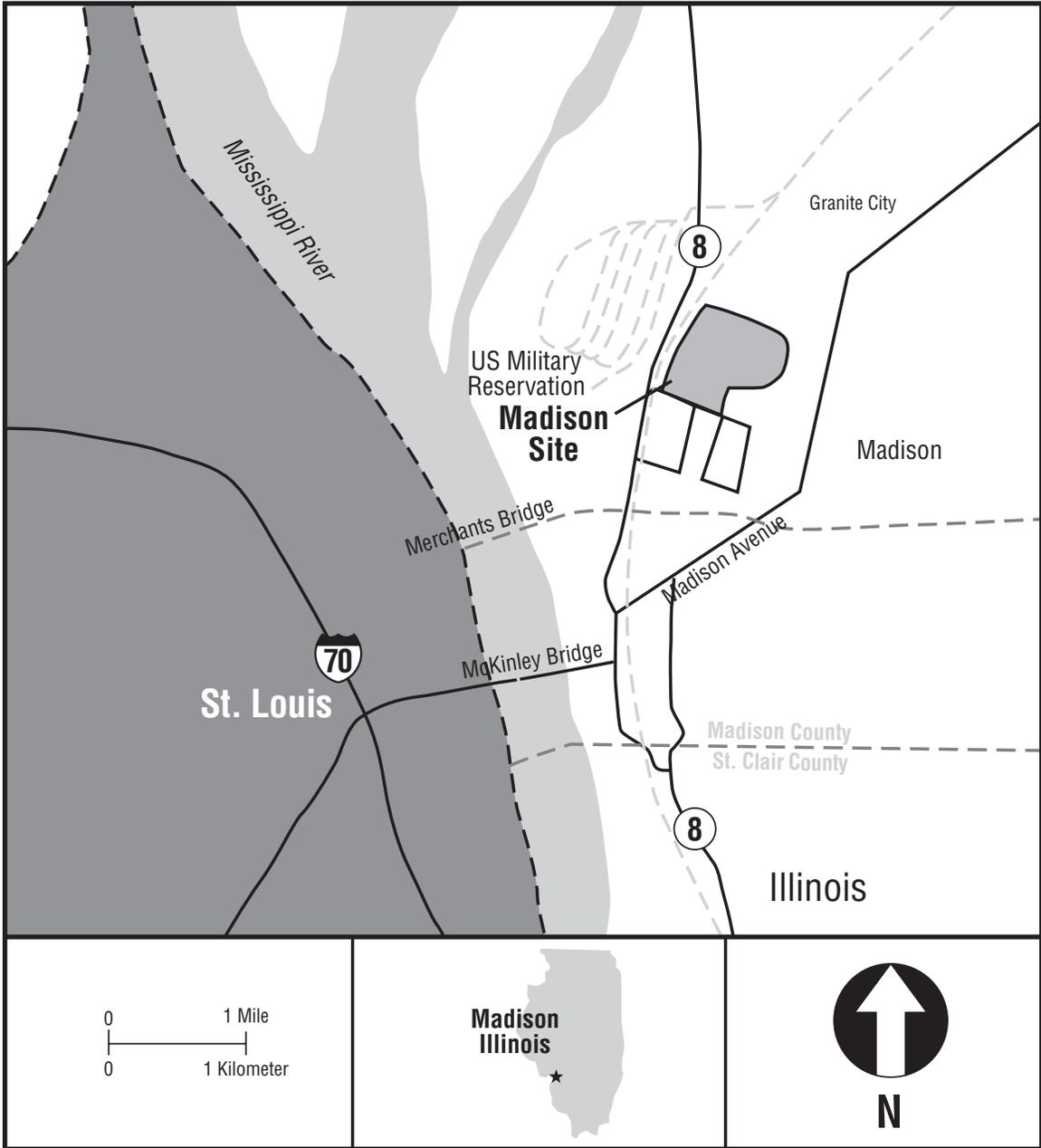
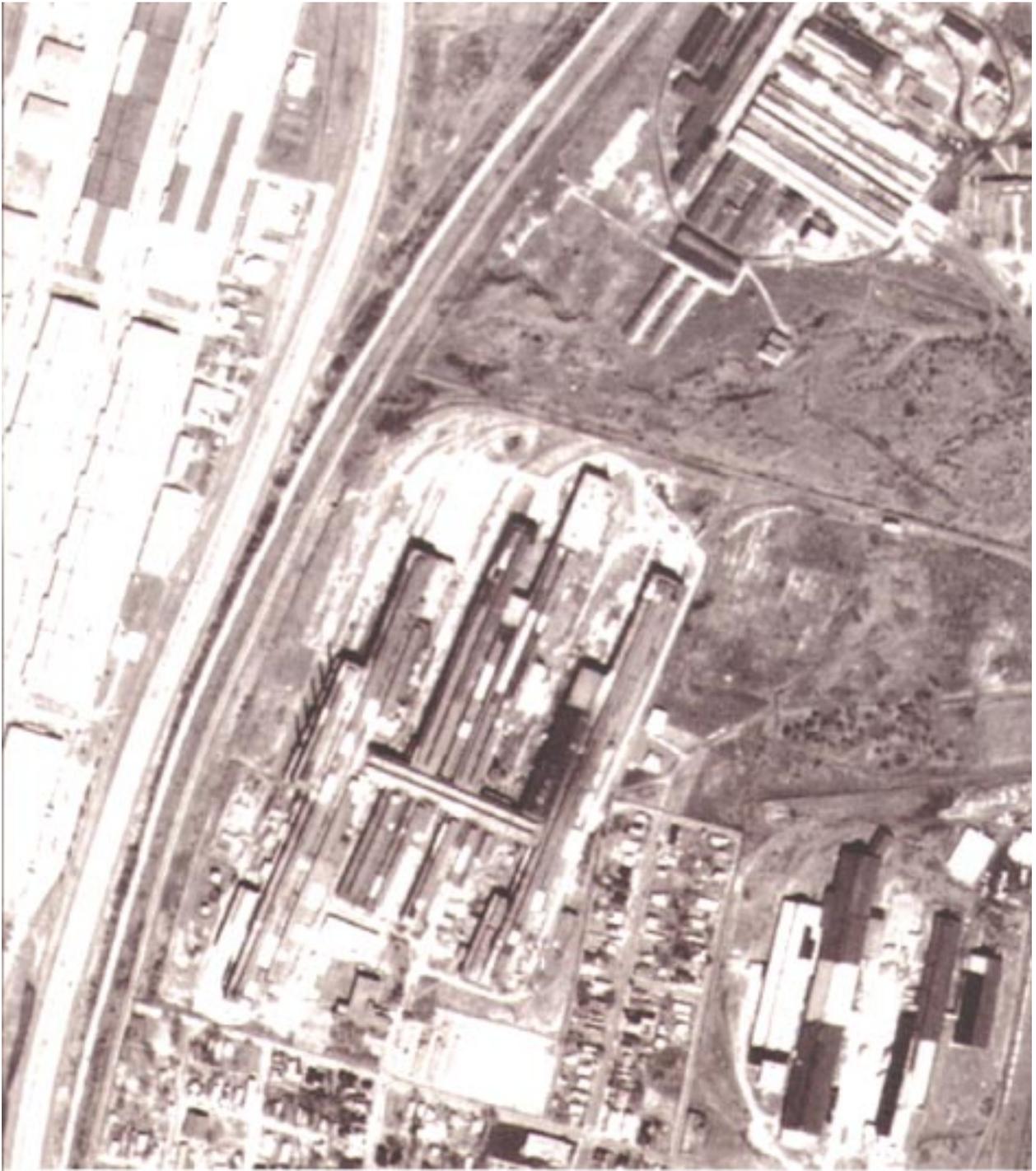


Figure 3.11 Madison Site



*Figure 3.12 Aerial View of the Madison Site*

### 3.5.3 FUSRAP Work Accomplished to Date

To date, field investigations at the site consist of a radiological survey in 1989 and site scoping visits in 1993 and 1998. The survey included scanning for gamma radiation on accessible floor and wall surfaces throughout the building and on overhead beams, collection and analysis of indoor dust and debris, and determination of radioactivity levels on overhead beam surfaces.

Uranium-238 and thorium-232 were found at concentrations exceeding current guidelines. Additional sampling and monitoring of environmental media are currently being accomplished inside a building that is involved in daily production. While the beams are known to be contaminated, other areas may also be affected. These areas will be further defined by the results of the November 1998 scoping visit. The cleanup effort will require extensive scaffolding. Many areas are not easily accessible.

Detailed characterization, including sampling and analysis, progressed in the summer of 1998. Near-term remediation is anticipated. Investigators believe that initial cleanup efforts were performed in the late 1950s and early 1960s, but no records are available to provide details.

In October, through the 1997 Energy and Water Appropriations Bill, Congress transferred FUSRAP from DOE to USACE. Cleanup under USACE will follow the provisions of CERCLA. Under the DOE program, the Madison, Illinois Site's remediation would have been performed through its Ohio Sites Office. However, due to the district's boundaries, administration of the cleanup of the Madison FUSRAP Site was placed under the direction of the St. Louis District.



## 4.0 COMMUNITY BACKGROUND

### 4.1 History of St. Louis Area

St. Louis first began in 1764 when Pierre Laclède selected the site as a trading post for French fur traders. St. Louis offered convenient access to major rivers (Missouri and the Mississippi) and to the port of New Orleans. Animal pelts could be easily shipped and managed from this location. The city is named for King Louis IX, who had been named a saint.

Settlers, trappers, and explorers gradually arrived, expanding the city's population. The Louisiana Purchase helped to open the West, and St. Louis became a key point in the westward expansion of the United States. In 1857, a rail link to the East Coast was completed. This link opened the city to immigrants from Ireland, Germany, and many other countries.

By the 1870s, the city boasted a population of 300,000 and thriving industry. In 1874, a railroad bridge was constructed across the Mississippi River, which made it easier to reach Illinois coal fields. With plentiful fuel supplies, the city's suburbs began to grow and the city became an important manufacturing center.

St. Louis continued its growth throughout the early 1900s, hosting a World's Fair and sponsoring the Olympic games. Growth slowed during War I, the Great Depression, and Prohibition, but St. Louis' vitality was carried by Charles Lindbergh on his historic flight from the United States to France. Lindbergh's plane, the *Spirit of St. Louis*, was sponsored by the St. Louis business community.

During World War II, St. Louis factories were put to work manufacturing military equipment for the Allies.

By 1950, the city of St. Louis had reached nearly 857,000 people, but this population decreased to 750,000 by 1960. Like other American communities, the suburbs absorbed much of the population and living conditions declined in the city. Community leaders in St. Louis responded with public works programs to build new schools, expressways, and housing.

From 1970 to 1980, the population decreased from 622,000 to 453,000; from 1980 to 1990, it experienced a further drop to 397,000. City leaders responded



aggressively with federal programs, construction of the St. Louis Arch, the opening of a new convention center in 1977, Busch stadium, an entertainment district called Laclède's Landing, and downtown malls. These amenities, and others, helped revitalize the city and again brought life to downtown.

The St. Louis area has one of the largest railroad terminals in the country. Area residents work in a variety of fields, including retailing, transportation, construction, recreation, and manufacturing. Major corporations include the automobile manufacturers Chrysler, Ford, and General Motors. Firms headquartered in St. Louis include Anheuser Busch, Emerson Electric, Boeing, Monsanto, and Ralston Purina. Schnuck Markets, the U.S. Air Force, BJC Health System, and United Health System are also major employers.

The Greater St. Louis area comprises 12 counties, five in Illinois and seven in Missouri. In 1997, it was the 17<sup>th</sup> most populous metropolitan area in the United States with a population of 2,561,400. The metropolitan area includes six universities, seven junior college districts, and 22 colleges.

## **4.2 Community Profiles**

The FUSRAP St. Louis Sites are located in several communities within the larger St. Louis Metropolitan area.

- The St. Louis Downtown Site (SLDS) and vicinity properties lie within the city limits of St. Louis proper.
- The St. Louis Airport Site (SLAPS) and the SLAPS VPs are located in the cities of Hazelwood and Berkeley. SLAPS is owned by the city of St. Louis through the Port Authority, even though it lies outside the St. Louis city limits.
- The Hazelwood Interim Storage Site (HISS) and the Latty Avenue Vicinity Properties (Latty VPs) are in the town of Hazelwood.
- The Madison Site is located in Madison, Illinois across the river from St. Louis, Missouri.



**4.2.1 St. Louis Downtown Site and Vicinity Properties**

The St. Louis Downtown Site and vicinity properties are located within the city of St. Louis. The city had an estimated population of 397,000 in the 1990 census. Of those residents working, 104,181 worked within the city, while 50,986 worked outside the city limits within Missouri state boundaries. Some 3,332 worked outside the state.

The City of St. Louis is governed by an elected mayor and by a board of aldermen of 28 members elected from wards.

The St. Louis downtown area contains many landmarks and historic buildings, including the St. Louis Arch, the Old Cathedral, and the Old Courthouse where the Dred Scott Slavery case was first tried. Memorial Plaza, which lies west of the business district, houses City Hall, as well as other municipal and federal buildings. Sports complexes including Busch Stadium, the Kiel Center, and the TWA Dome are also located in downtown St. Louis.

The City of St. Louis also hosts Forest Park, which includes the St. Louis Zoo, the St. Louis Science Center, a planetarium, an Art Museum, and public sports fields. The Missouri Botanical Garden is also located in St. Louis.

**4.2.2 St. Louis Airport Site**

SLAPS is located in two communities, Hazelwood and Berkeley, Missouri. These two incorporated areas lie to the west and north of St. Louis.

**Hazelwood** - HISS and the Latty VPs are located 0.6 miles north of the St. Louis Airport within the community of Hazelwood. According to 1990 census data, Hazelwood had a population of 15,324. The city lists its current population as 26,829. A recent annexation has boosted Hazelwood’s size.

The Hazelwood community was first settled in 1797 by the Musick family, which ran a ferry business across the Missouri River. New families entered the area, forming a farming community. In 1828, Kentucky Senator Henry Clay gave the area its name. Incorporated as a village in 1949, Hazelwood became an incorporated city in 1970.

Economic activity is concentrated in manufacturing (approximately 25 percent) and retail trade (approximately 16 percent). Educational



institutions, health services, transportation, and finance institutions make up much of the remaining business activity.

The city has a council-city manager form of government. The seven-member council consists of five members elected from districts, one member elected at large, and a mayor elected at large.

**Berkeley** had a population of 12,450 in 1990, according to 1990 census data. The city lists its current population as 12,240 and was incorporated in 1937. In the early 1800s, Berkeley established itself as a home for the well-to-do and contained large estates. In 1910, Berkeley opened an airfield and entered the age of aviation. The first St. Louis-built airplane took off from the field. Berkeley further pioneered in aviation, hosting the first International Air Meet. Until recently, Berkeley was the home of McDonnell Douglas World Headquarters. The firm has since merged with Boeing to become part of the Boeing Company.

Berkeley is within one mile of Lambert-St. Louis International Airport and accesses several interstate highways.

Economic activity is concentrated in manufacturing, especially those related to aircraft (approximately 25 percent), retail trade (15 percent), education (8 percent), transportation (8 percent), and health services (8.1 percent). Finance institutions, personal services, and business and repair services make up much of the remainder of business activity.

The city has a council-city manager form of government. The seven-member council consists of six members elected from districts and a mayor elected at large.

**4.2.3 St. Louis Airport Site Vicinity Properties**

The SLAPS VPs include those properties contiguous to SLAPS; the Ballfields north of SLAPS; Coldwater Creek from SLAPS northward to the Missouri River; and the vicinity properties along Hazelwood Avenue, Pershall Road, McDonnell Boulevard, Eva Road, and Frost Avenue. Also included are the vicinity properties along Latty Avenue.

The vicinity properties are owned by commercial enterprises, local governments, and private residents. The cleanup actions that have been completed or are being performed assume that the land use of the SLAPS VPs will be the same as their current uses, which range from residential to industrial/commercial.



#### 4.2.4 Madison Site

Madison, Illinois is located northeast of St. Louis in Madison County, Illinois.

Located directly across the Mississippi from St. Louis, Madison was started as a township in 1892 and became a city in the early 1900s. Like its county namesake, Madison was named after James Madison, the fourth President of the United States.

The rise of industry at the turn of the century lured thousands of immigrants to Madison and its sister cities, Granite City and Venice. These three cities attracted large numbers of Bulgarian peasants and laborers. From 1900 to 1918, the tri-city area was known as the capital of Bulgarian immigration to North America. Poles, Czechs, and many other nationalities were also represented in the area.

The three cities grew together, as each supported factories and companies belonging to Frederick and William F. Niedringhaus. The Niedringhaus' enterprises needed large numbers of unskilled workers, and Illinois factory sites cost less than those in St. Louis and were more convenient. Other economic incentives were also at work: rates for transporting coal were cheaper, water costs lower, labor laws allowed longer workdays and workweeks, and pollution regulations were weaker than those in Missouri.

While the Bulgarian community was gradually absorbed into the American culture, echoes of the past can be heard through such common family names as Popov, Tsigalero, and Velchef. City streets are still lined with churches and other buildings from that era.

According to the United States Geological Survey, the estimated population for Madison was 4,280 in 1994. (Because the city is unincorporated, no census data is available for 1990.) In 1995, Madison County business was dominated by services that employed approximately 30 percent of the county's employees. Manufacturing and retail trade each accounted for nearly a quarter of the employees in that region. Lesser numbers from a variety of fields, including construction, transportation, and wholesale trade, rounded out the employment figures. Key businesses in Madison and nearby communities include National Steel, American Steel, and Lantern



Corporation. Gateway International Raceway provides a popular venue for fans of NASCAR and other auto races.

The city is governed by a mayor, in collaboration with a city council and aldermen.



## 5.0 Community Concerns

### 5.1 Chronology of Community Concerns

**1981** - The U.S. Department of Energy (DOE), in conjunction with the U.S. Environmental Protection Agency (EPA), the Missouri Department of Natural Resources (MDNR), and the Nuclear Regulatory Commission (NRC), held a meeting in October at the Bridgeton Town Hall to provide information about several properties in the St. Louis area, including the St. Louis Airport Site (SLAPS), the Hazelwood Interim Storage Site (HISS), the St. Louis Downtown Site (SLDS), Weldon Springs, and the West Lake Landfill. The meeting was designed to help the public understand the problems posed by radioactive contamination of the properties and remedial actions being planned. (At that time, the Latty Avenue Properties and West Lake Landfill were under the purview of NRC. Latty Avenue was assigned to DOE by congressional action effective in Fiscal Year 1984.)

The League of Women Voters, in cooperation with MDNR, met with 85 individuals at the Bridgeton Community Center. State and local officials and the Airport Director expressed frustration with the lack of DOE action to clean up the radioactively contaminated properties in the St. Louis area. The concerns discussed included assignment of final responsibility for the properties, the cost of cleanup, and health problems of residents and Mallinckrodt workers.

**1982** - DOE announced plans to clean the SLAPS ditches and to take resulting waste to Weldon Spring. DOE also proposed developing Weldon Spring as a permanent disposal site for all Missouri Formerly Utilized Sites Remedial Action Program (FUSRAP) wastes and for a small amount of FUSRAP wastes from other states. This proposal met with considerable opposition, culminating at a public meeting in Weldon Spring on August 10, 1982. In response to this concern, DOE postponed action on the SLAPS ditches and the Weldon Spring disposal site pending further study.

Members of the Coalition for the Environment held a public hearing on health and how it is affected by radiation. The Coalition urged federal officials to clean all area properties and remove waste from the St. Louis area. A select Interim U. S. House Energy and Atomic Energy Commission conducted a series of hearings across the state to review the problems of low-level radioactive waste disposal. City officials of Hazelwood requested that the contaminated soil be moved from Latty Avenue. Local environmentalists opposed storage at Latty Avenue and preferred that the soil be moved and stored at the Callaway Nuclear Power Plant. One environmental group, the Crawdad Alliance, suggested that the contaminated soil be taken to a DOE-operated and -licensed site.



The Missouri House and Energy Committee held a public hearing at the Florissant City Hall, which was attended by 50 people. The purpose of the hearing was to discuss possible solutions to the problem of low-level radioactive waste disposal. The federal plan to bury low-level radioactive waste at Weldon Spring was opposed by politicians, residents, and environmental groups.

**1984 and 1985** - DOE coordinated activities with local governments during remedial action for the ditches along Latty Avenue and during the repair of erosion on the western side of the SLAPS property.

On November 19, 1985, the U.S. Army Corps of Engineers (USACE) held a public hearing on a proposed flood control project for Coldwater Creek. At that meeting, several individuals and organizations expressed concern about the potential for Coldwater Creek to become contaminated from materials at SLAPS.

**1986** - DOE held discussions with the St. Louis Mayor and Board of Aldermen early in the year concerning transfer of the SLAPS property to DOE. The board postponed action on the transfer until DOE conducted further characterization to define the quantity and extent of contamination.

**1987**- In April, DOE reported to officials of St. Louis, Berkeley, and Hazelwood that studies had shown the SLAPS property would not accommodate a disposal cell large enough for all the contaminated material from SLAPS, the Latty Avenue properties and SLDS. DOE further reported that it was initiating studies to determine the feasibility of acquiring additional land in the airport area for a disposal cell site. A news release describing the situation was issued. Subsequently, DOE representatives met on several occasions with the Berkeley and Hazelwood City Councils, the St. Louis Mayor and Board of Aldermen, and MDNR to discuss disposal alternatives. These meetings were reported in the media.

**1988** - DOE conducted community interviews to identify public issues and concerns related to the St. Louis Sites. DOE participated in meetings and made presentations to public officials, citizen/special interest groups, and the general public. DOE took part in a series of hearings held by the Transportation and Commerce Committee of the St. Louis Board of Aldermen to discuss the matter of transferring land at SLAPS from the city to DOE. Information on the site and on the remediation process was provided to the public during meetings sponsored by the Airport Community Program Committee and the St. Louis Municipal League. DOE and EPA participated in a hazardous waste forum sponsored by Congressman Jack Buechner in 1989. This public meeting was conducted to update St. Louis residents on the Superfund status of the sites.



**1989** - Congressman Buechner introduced a proposal for legislation (H.R. 1559) that would require DOE to consider alternative sites for the disposal of St. Louis waste. Should DOE fail to find an appropriate alternative, this proposed legislation would forbid storage at the airport site of any waste from outside North County. The 1990 Congress closed without taking action on this proposed legislation.

*The St. Louis Post Dispatch* published a seven-part newspaper series entitled *Legacy of the Bomb* about St. Louis nuclear waste.

**1990** - The St. Louis Board of Aldermen adopted a plan to transfer the property near Lambert Field to DOE. Citizens opposed to that action collected signatures on petitions to place the issue of the land transfer on the city ballot.

USACE postponed a project that would prevent Coldwater Creek from flooding areas of north St. Louis County because segments of the creek banks and sediment that would be excavated were radioactively contaminated.

Community interviews were updated to identify issues and concerns of affected residents. In response to community concerns and to make information more available, a DOE Public Information Center was opened at 9200 Latty Avenue in Hazelwood. (The center provides opportunities for public comment and information on all the St. Louis Sites.)

The St. Louis Board of Aldermen voted to place a non-binding referendum on the November 1990 ballot that would require voters to decide whether they favored a nuclear waste disposal cell at Lambert Field. Supporters of the referendum rallied at the site of the original Mallinckrodt Chemical Works, where the waste was first generated during World War II. A similar non-binding referendum was also placed on the ballot in St. Louis County through the efforts of Citizens Against a Radioactive Environment. Results of the referendum in both the city and county of St. Louis indicated that citizens strongly opposed the storage of radioactive waste near Lambert Field.

The Media Research Bureau of the University of Missouri at Columbia conducted a survey of 480 registered voters in St. Louis for the *Post Dispatch* and KMOX Radio. Those surveyed opposed a radioactive waste disposal cell at Lambert by 81.9 percent to 7.3 percent, with 10.8 percent undecided.

Senator Christopher S. Bond sent a letter to DOE Secretary James D. Watkins to inform him that voters in St. Louis City and County rejected the construction of a permanent disposal cell to store radioactive waste. Senator Bond requested that DOE examine the option of moving the waste out-of-state to a storage site



approved and certified by DOE and expressed his belief that an in-depth analysis of other potential storage sites would enable better evaluation of the alternatives.

Councilman Anthony Green held a special meeting for Berkeley residents to discuss issues related to airport expansion, Natural Bridge business, and to provide updated information on the proposed radioactive waste dump.

On December 6, 1990, DOE held a public scoping meeting pertaining to the programmatic Environmental Impact Statement (EIS) in St. Louis. The meeting was one of a series held nationally to notify the public of DOE's intent to prepare a statement on its proposed integrated environmental restoration and waste management program. The purpose of this program was to provide a broad, systematic approach to addressing cleanup activities and waste management practices. Of the 177 attendees, 97 made comments. Speakers identified themselves as citizens, housewives and mothers, environmentalists, politicians, educators, students, religious representatives, organization members, state agency representatives, media representatives, and employees. Most of the speakers addressed site problems. The most frequent comment was that storage of radioactive waste should be moved to a non-urban, less heavily populated area either elsewhere in Missouri or out-of-state.

**1991** - Public officials announced their intent to draft a plan to move contaminated soil from the St. Louis area to a less populated area in the state. Representative Joan Kelly Horn, St. Louis County Executive George R. "Buzz" Westfall, and County Councilman John R. Shear said the plan would include the establishment of a search committee to locate a community willing to take the waste, and the possible use of incentives to compensate that community.

Representative James H. Schueuer (Chairman of the Science, Space and Technology Subcommittee on the Environment) and Representative Horn sent a letter to Secretary Watkins requesting his assistance in dealing with waste at the FUSRAP properties in St. Louis. They requested additional information and technical assistance in resolving the problem as soon as possible.

**1992** - As part of the process of conducting a comprehensive environmental review of the St. Louis Sites, DOE held a public scoping meeting on January 28th at Berkeley Senior High School. More than 250 individuals attended, with 30 private citizens and 16 public officials presenting testimony.



The proposed interim removal action for the North County Vicinity Properties was discussed in detail in an Engineering Evaluation/Cost Analysis (EE/CA) released to the public in spring 1992.

The St. Louis County Radioactive and Hazardous Waste Oversight Commission was appointed by St. Louis County to address concerns that were raised during the public comment period; these concerns were related to the techniques and equipment used for waste management and transportation. This group worked with DOE representatives to resolve potential conflicts and identify a mutually agreeable approach to the removal action.

**1993** - In an effort to begin final remediation activities for the St. Louis Sites, DOE drafted documents required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for public review. The list of documents prepared for public comment in 1994 included the Baseline Risk Assessment, Environmental Impact Statement, Remedial Investigation, Initial Screening of Alternatives, Feasibility Study (FS), Work Plan-Implementation Plan, Community Relations Plan (CRP), and the Proposed Plan (PP).

**1994** - DOE released a plan for St. Louis site remediation, which detailed a plan to consolidate radioactive waste from the St. Louis Sites into a disposal cell located at SLAPS near Lambert Airport. DOE encountered strong opposition as a result of this proposal.

Mr. Thomas Grumbly, DOE Assistant Secretary for Environmental Management, met with St. Louis stakeholders to discuss concerns regarding DOE's remediation plans for the sites. DOE withdrew its proposal and urged interested stakeholders to form a group to work with DOE representatives to find a suitable alternative. As a result, the St. Louis Sites Remediation Task Force was established to identify and evaluate remedial action alternatives for the cleanup and disposal of radioactive waste materials at the St. Louis Sites and West Lake Landfill.

In September, a technology demonstration was held to compare contemporary treatment methods with those traditionally used to cleanup the sites.

**1995** - The St. Louis Sites Remediation Task Force held a series of public meetings to examine remediation alternatives for the eventual disposal of radioactive material from the St. Louis Sites. The Task Force established working groups to review Alternate Sites; Health Risks/Cleanup Standards; Priorities; Remediation Alternatives; Technologies; Communications and Membership. A delegation from the Task Force traveled to South Carolina for a tour of the Clemson Technical Center Laboratory to further examine soil separation, a promising soil treatment technique shown at the technology demonstration held at SLAPS in 1994.



**1996** - The Task Force released the St. Louis Sites Remediation Task Force Report in September detailing its recommendations for cleanup and removal of radioactive contaminants from the St. Louis area. The recommendations presented were based in part upon the characterization data as well as information provided to the Task Force by DOE representatives and DOE contractors. The Task Force also included background information on the St. Louis Sites to provide others with an understanding of the rationale behind their recommendations.

**1997** - In May, DOE, EPA, MDNR and public office-holding stakeholders attended a two-day session in Meramec State Park to discuss site issues and develop a path forward for remediating the St. Louis Sites. At the end of the workshop, DOE was directed by these stakeholders to begin cleanup of the St. Louis Airport Site (SLAPS) Westend to a level of 5/15/50 pCi/g.

At the direction of stakeholders attending the workshop in May, DOE held a Technology Review to re-examine the available technologies for a more cost effective remediation of all the sites. Eleven technology vendors provided proposals and abstracts for evaluation by DOE representatives and technical experts in a public meeting held at the World Trade Center in St. Louis County in July.

In September 1997, DOE held a public meeting at the Hazelwood Civic Center to gather comments on an EE/CA for cleanup work on the west end of SLAPS, with contaminated material being disposed of at a licensed out-of-state disposal facility. Although the public approved of this work proceeding, they strongly recommended that cleanup proceed at a level of 5/15/50 pCi/g rather than the higher levels suggested as the preferred alternative.

At the request of local utility companies, a policy was implemented to make site personnel available 24 hours per day to respond to requests for support of utility workers in possible radiologically contaminated areas.

In October, through the 1997 Energy and Water Appropriations Bill, Congress transferred FUSRAP from DOE to USACE. Cleanup under USACE will follow the provisions of CERCLA. Under the DOE program, the Madison, Illinois Site's remediation would have been performed through its Ohio Sites Office. However, due to the district's boundaries, administration of the cleanup of the Madison FUSRAP Site was placed under the direction of the St. Louis District.



In November, the St. Louis District USACE opted not to pursue alternative technologies as a stand-alone event. Rather, USACE chose to contractually direct contractors to evaluate and implement as deemed appropriate, effective and cost-efficient technologies.

**1998** - In March, USACE held a public meeting at the Hazelwood Civic Center on Dunn Road to gather public comments on two EE/CA documents for SLAPS and HISS, respectively. At that meeting, the public approved the construction of railspurs on both sites. The public also emphatically requested that contaminated material above background, but below cleanup criteria, not be used as backfill. The St. Louis District USACE complied with this request in its work on both sites.

In April, USACE held a public meeting at the Henry Clay Elementary School near SLDS to solicit comments on the SLDS FS/PP. A complete transcript of the meeting was kept and provided to individuals upon request. Detailed Responses to Comments, including those received during the public meeting, on the FS/PP were included in the Final SLDS Record of Decision (ROD), Appendix A. The USACE accepted and complied with the public's recommendation for remediation work to follow Alternative 6 rather than the USACE's preferred Alternative 4. In August 1998, the EPA signed the final ROD developed by the USACE according to Alternative 6. The SLDS ROD is available to the public through the Administrative Record or upon request.

In June 1998, the St. Louis District USACE began the process of updating the 1993 DOE Community Relations Plan, which resulted in this document.

## **5.2 Key Current Community Concerns**

Currently, community concern about contamination from the St. Louis Sites is moderate. Citizens are not indifferent to the environmental problem posed by the St. Louis Sites. On the contrary, conversations with community members revealed that many stakeholders are wary of blindly allowing the government to handle cleanup activities without stakeholder input and closely monitoring the progress of site cleanup.

In accordance with CERCLA guidance, individuals interviewed included private citizens, elected officials, representatives of local municipalities, citizen and environmental groups, the business community, the educational community, and local environmental agencies. A summary of primary concerns and other related issues raised during the interviews follows.



### 5.2.1 Primary Concerns Raised During the Interviews

*Health and Safety Issues:* Several residents voiced concern over health and safety issues for the site. Of particular interest was concern regarding the continuing contamination of Coldwater Creek through migration from source sites and contamination risks to local residents through exposure pathways (inhalation, ingestion, or absorption).

*Transportation Issues:* The safe transport of contaminated materials to a licensed out-of-state disposal facility also concerned many stakeholders. In particular, citizens were concerned that cleanup efforts should prevent recontamination of a site.

### 5.2.2 Other Important Issues Raised by the Community

*The CERCLA Cleanup Process:* The community relations program at the St. Louis Sites should educate area residents and local officials about the procedures, policies and requirements of the Superfund program. To dispel some of the current confusion about the St. Louis District USACE's purpose and responsibilities at the site, an effort is in place to circulate basic information on this subject to the community. Discussions with community members indicate that an explanation of remedial and removal actions as well as the documentation process could receive special emphasis.

*The Pace of the Community Relations Program:* The pace of the community relations program will be set by the needs of the local stakeholders. Community relations activities will be setup to encourage community participation. Stakeholders have requested the following communication methods be implemented to relate information about progress and problems encountered during cleanup efforts: telephone contacts, letters, reports, newsletters, internet resources, and regularly scheduled meetings with citizen groups.

### 5.2.3 Public Feedback on Community Relations Techniques and Strategies

The following activities are required by CERCLA for the St. Louis Sites community relations program. Figure 5.1 illustrates the timing of each activity during the remedial schedule for the site. Since construction (cleanup) schedules are heavily impacted by the availability of funding and the weather, it is difficult to forecast years in advance the exact dates that specific work will occur. Instead, the USACE has chosen to keep the public abreast of site activities by providing a



calendar of events in the quarterly newsletter and giving updates at the monthly Oversight Committee meeting, which is open to the public.

Residents are encouraged to attend the monthly Oversight Committee meetings at the FUSRAP Project Office at 9170 Latty Avenue at which a progress report is given by the USACE. The dates and times of these meetings will be published in the quarterly newsletter. Concerned citizens are also encouraged to call or visit this office during regular business hours to obtain information regarding current site progress.

The Administrative Record is a legal file containing only the documents used to select a particular cleanup technique for a site as documented in the Record of Decision (ROD). Its purpose is to provide the public with access to site-related information so that they may make informed comments on the selection of a cleanup remedy. A copy of the Administrative Record is available for public review at the FUSRAP Project Office and at the St. Louis Public Library located at 1301 Olive Street in St. Louis, Missouri, during normal business hours.

CERCLA has specific reporting requirements and requires that an Administrative Record be collected. This legal file must include documents used to help select a cleanup method, including documents on site activities, general information about the Superfund program, and site-specific information. Until all required documents have been developed and all necessary data is gathered to select a response action, a complete Administrative Record for that particular site does not exist. In the meantime, a temporary file called an Administrative Record File or Record File is maintained with all available information. This Record File documents current progress and provides the public with current data for the St. Louis Sites. Record Files for each OU are available for review at the FUSRAP Project Office and at the St. Louis Public Library located at 1301 Olive Street in St. Louis, Missouri, during normal business hours.

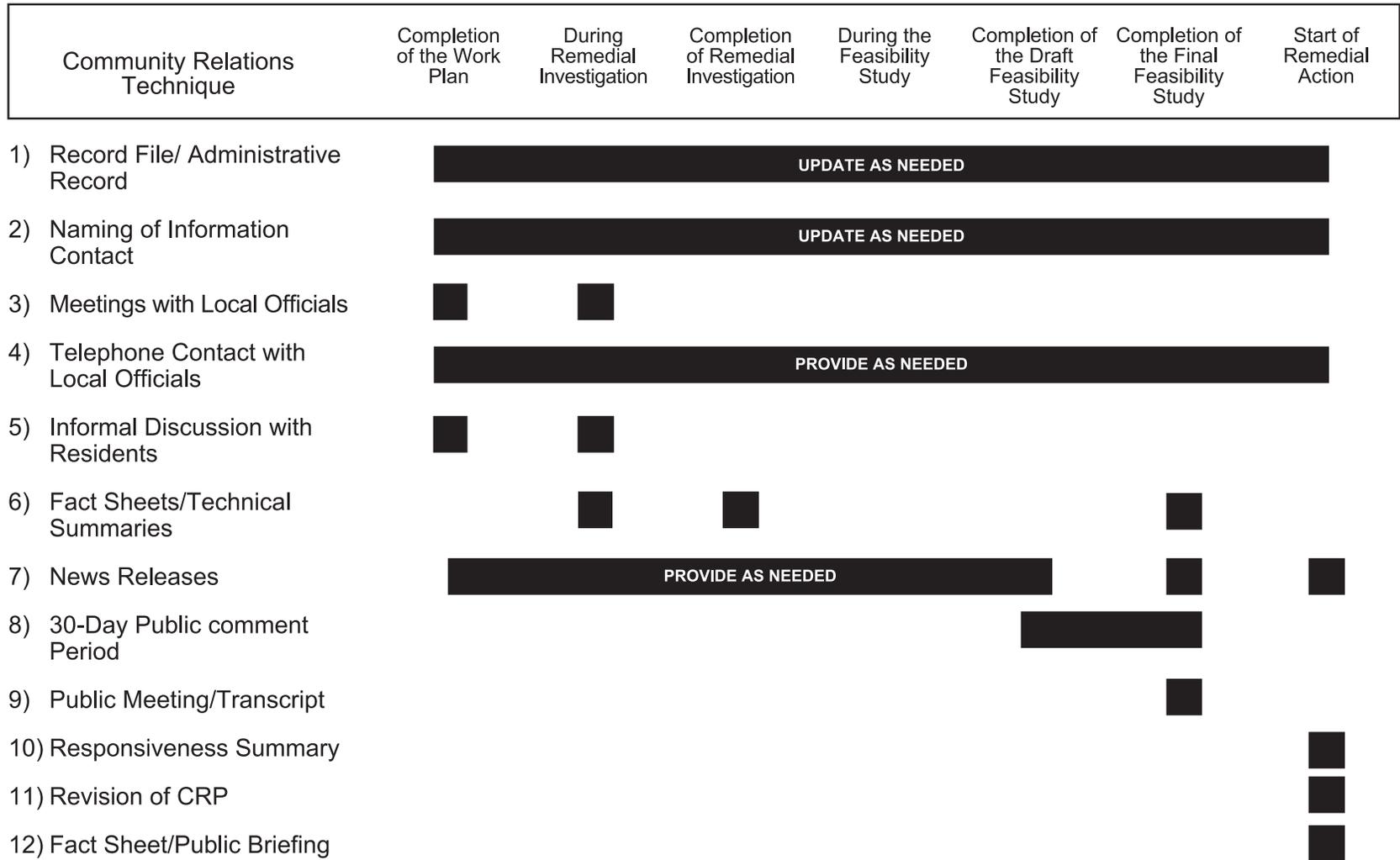
*RI/FS and Proposed Plan Notification and Analysis:* A notice of the availability of the RI/FS and PP, including a brief summary of the PP, will be published in a major local newspaper of general circulation. Notification will also be mailed to all individuals on the site's mailing list to highlight the event.

*Public Comment Period on Draft FS Report and PP:* A minimum 30-day public comment period will be held to allow citizens to express their opinions on USACE's preferred alternative for remedial action at the St. Louis Sites. Community input is encouraged at this point by informing citizens that USACE will consider their opinions in the ultimate decision on remedial design and remedial action.



**Figure 5.1**

**Timing of Community Relations Activities**



5-10

*Figure 5.1 Timing of Community Relations Activities*

*Public Meeting/Meeting Transcript:* A public meeting held during the public comment period will provide an opportunity for the St. Louis District, USACE to answer citizens' questions directly and to discuss the recommended remedial alternative. According to community residents, as few as 20 or as many as 200 community residents might attend such a meeting. Therefore, planning should be flexible. This meeting might be held at the Hazelwood Civic Center-East or at the Henry Clay Elementary School Gymnasium. The meeting will be coordinated with local city and county officials as well as the St. Louis Oversight Committee. A meeting transcript will be prepared and made available to the public.

*Responsiveness Summary:* This document is required as part of the ROD for the site. It should summarize public concerns and issues raised during the public comment period on the draft FS and PP. In addition, the responsiveness summary should document EPA and state responses to these concerns. The ROD and responsiveness summary shall be available for public inspection and copying at or near the site prior to the commencement of remedial action. A notice of the availability of the ROD and responsiveness summary will be published in a major local newspaper of general circulation.

*Revision of the CRP:* This Community Relations Plan (CRP) will be revised when the ROD has been issued for an site related to the St. Louis Sites to outline community relations activities appropriate to the remedial design and remedial action (RD/RA) phase. The revision of the CRP should:

- Update facts and verify information in the CRP prepared for the RI/FS.
- Assess the community relations program to date and indicate if the same or different approaches will be taken during RD/RA.
- Develop a strategy to prepare the community for future roles during RD/RA and operation and maintenance.
- Hold community interviews prior to revision of the CRP.

*Fact Sheet/Public Briefing:* A detailed fact sheet describing the final engineering design will be issued, and as appropriate, a public briefing will be held prior to the initiation of remedial action.

In addition to these basic requirements for a community relations program at the St. Louis Sites, a number of activities will be undertaken to ensure



that the community is well informed about site activities and has the opportunity to express its concerns. Planned activities, and their timing in the cleanup effort of the St. Louis Sites, follow (Since construction [cleanup] schedules are heavily impacted by the availability of funding and the weather, it is difficult to forecast years in advance the exact dates that specific work will occur. Instead, the USACE has chosen to keep the public informed of site activities by providing a calendar of events in the newsletter and giving updates at the Monthly Oversight Committee meeting, which is open to the public.).

*Establish an Information Contact:* A technical or community relations staff person will be designated to respond directly to public inquiries regarding site activities.

*Meet with local officials and telephone them periodically:* State and federal officials have indicated that they want to be informed about site plans and findings. At a minimum, meetings with local officials should be held at the following technical milestones:

- completion of the final work plan;
- completion of the draft RI/FS; and
- before remedial action starts.

*Conduct Informal Meetings with Residents:* A meeting with the residents is advisable prior to the RI and before any on-site activities involving use of earth-moving devices or other heavy machinery. The meeting should include interested citizens, the USACE FUSRAP Program Manager, and technical and community relations assistance as necessary.

*Prepare Fact Sheets and Technical Summaries:* One fact sheet might be released at the beginning of the RI to inform area residents and other interested citizens about USACE's site plans and the procedures of the Superfund program. Another fact sheet (including a technical summary) might be prepared to explain the findings of the RI and to outline each of the remedial alternatives considered for the St. Louis Sites. A detailed description of USACE's preferred remedial alternative(s) should also be provided. In addition, each fact sheet should list the location of administrative records and where information is available for public review.



*Provide News Releases to Local Media:* Prepared statements might be released to local papers, such as the *St. Louis American* and to local radio and television stations to announce discovery of any significant findings at the site during the RI/FS or to notify the community of any public meetings. Additional news releases are advisable at the following milestones:

- when the draft FS report is completed; and
- before remedial action starts.

Addresses and phone numbers of local newspapers are included in Appendix E.



## 6.0 COMMUNICATION OBJECTIVES AND ACTIVITIES

Effective, efficient communication is essential for a coordinated community relations effort. The purpose of this Community Relations Plan (CRP) is to facilitate communication between the St. Louis District, U.S. Army Corps of Engineers (USACE), which is responsible for the Formerly Utilized Sites Remedial Action Program (FUSRAP), and its publics. Planning and coordination provides the foundation for this plan. Effective communication between USACE and the public—government officials, interest groups, area residents—will encourage understanding and knowledge of FUSRAP activities, minimizing or avoiding rumors and misinformation.

This plan is intended to continue to enhance open lines of communication with the public. It will, among other benefits, enable public participation in the decision-making process to be conducted in as well-informed a manner as possible.

### 6.1 Community Relations Objectives

The CRP is the framework for on-going communications between the public and personnel involved with the St. Louis Sites. The following subsections detail objectives developed as guidelines to be implemented in St. Louis FUSRAP community relations activities.

#### 6.1.1 Inform Area Residents, Media, and Local Officials of the Superfund Cleanup Process and the Role of the U.S. Army Corps of Engineers

Not all area residents, local news media, and others constituting the public are familiar with the Superfund Cleanup Process or the role of the St. Louis District, USACE in site investigation and remediation activities. Information distinguishing between the St. Louis District's other programs and FUSRAP will be provided to enhance community understanding of the roles of those involved in the investigation and cleanup at the sites.

#### 6.1.2 Inform Area Residents, Media, and Local Officials of the Progress of Each Site in Relation to the Cleanup Process

It is recognized that the St. Louis FUSRAP is a complicated combination of decisions and activities to understand. Among other considerations is the fact that, at any one time, each of the St. Louis Sites are at different stages of completion in the remediation process. A specific objective of the FUSRAP Community Relations Program will be to try to clarify these processes whenever



and wherever possible. This objective can be achieved by multiple means including, but not limited to, monthly public meetings facilitated by the Oversight Committee; fact sheets with information about individual sites to be distributed at functions such as neighborhood association meetings; mailing campaigns to interested stakeholders; public speaking events; newsletter publications; and related activities. All printed materials prepared for distribution to the public will be written in a clear, concise, and easily understood format.

### **6.1.3 Inform the Community of Potential Risks of Site Contaminants on Human Health, Wildlife, and the Environment**

Area residents will continue to receive information on actual and potential human health and environmental risks associated with these sites. This is especially important because the St. Louis Sites are in or near the heavily populated St. Louis metropolitan area.

This information will be available to the public through fact sheets, community meetings, press releases, and public speaking events or related activities. The public will receive information regarding the agency's cleanup and responses to site-specific risks. The primary goal of FUSRAP is to protect human health, wildlife, and the environment from unacceptable levels of risk.

### **6.1.4 Provide Updated Information**

Local citizens and government officials alike are concerned about any impact on areas near the St. Louis Sites, activities associated with their cleanup, and the welfare of area residents and businesses. The FUSRAP Project Office will regularly provide relevant communities with current and accurate information about site activities in order to reduce or eliminate misinformation. Tools such as newsletters and fact sheets will be provided in quantity, whenever appropriate, to area officials, civic groups, and others who can assist in the dissemination of information.

### **6.1.5 Establish a Communication Link between the FUSRAP Project Team and Other Interested Parties Involved at the Sites**

Regular communication will result in a strong, positive, professional relationship with all parties interested in the sites. This relationship will be facilitated through the FUSRAP Project Office, which will regularly listen to the questions and concerns of the public, provide answers, and relay feed back to the project team.



The Project Office will establish communication through periodic phone or in-person contacts with community members, interested organizations, local officials, and media members. The Project Office phone, home page address, and mailing address shall be consistently displayed in site publications and advertisements.

## **6.2 Community Relations Activities**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires that community relations activities be conducted throughout the various stages of investigation and cleanup for each site. The St. Louis District FUSRAP has undertaken and continues to engage in activities to strengthen communications with interested parties.

### **6.2.1 Establish Administrative Record and Administrative Record Files**

The Administrative Record is a legal file containing only the documents used to select a particular cleanup technique for a site as documented in the Record of Decision (ROD). Its purpose is to provide the public with access to site-related information so that they may make informed comments on the selection of a cleanup remedy. A copy of the Administrative Record is available for public review at the FUSRAP Project Office and at the St. Louis Public Library located at 1301 Olive Street in St. Louis, Missouri, during normal business hours.

CERCLA has specific reporting requirements and requires that an Administrative Record be collected. This legal file must include documents used to help select a cleanup method, including documents on site activities, general information about the Superfund program, and site-specific information. Until all required documents have been developed and all necessary data is gathered to select a response action, a complete Administrative Record for that particular site does not exist. In the meantime, a temporary file called an Administrative Record File or Record File is maintained with all available information. This Record File documents current progress and provides the public with current data for the St. Louis Sites. Record Files for each OU are available for review at the FUSRAP Project Office and at the St. Louis Public Library located at 1301 Olive Street in St. Louis, Missouri, during normal business hours.

Locations of the Administrative Record and Administrative Record Files are listed in Appendix D. Contact names and numbers are also provided so that assistance may be obtained. Please note, the St. Louis District FUSRAP is in the process (at the writing date of this community relations plan) of updating and improving the organization of the St. Louis Sites Administrative Record and Administrative Record Files.



While parties interested in reviewing the complete Administrative Record (or Record File) for an operable unit are referred to the St. Louis Public Library or the FUSRAP Project Office, general SLDS information is being maintained at the request of the community in the Henry Clay Elementary School Library. This repository contains only copies of documents contained in the Administrative Record deemed to be of particular interest to the community and not the entire Administrative Record.

### **6.2.2 Public Comment Periods**

A 30-day public comment period is required after the completion of the Feasibility Study (FS) and publication of the lead agency's proposal of a recommended alternative for each site (also known as a Proposed Plan or PP). The purpose of the comment period is to provide all interested parties, including local officials, residents, and interest groups, an opportunity to express their opinions on the FS/PP based on the content of the Administrative Record File. The comment period also facilitates public participation in the final decision-making process for site remediation. Comment periods will be announced in major local newspapers of general circulation, such as the *St. Louis Post Dispatch* and the *St. Louis American*. In addition, the Project Office shall make appropriate news media contacts to announce comment periods.

Documents for which public comment is sought may be requested by interested parties or reviewed at the locations published in the public notices. Although more appropriate locations may be used in conjunction with or instead of those listed here, historically documents for which public comment is sought have been made available for review at Julia Davis Branch, St. Louis Public Library; Prairie Commons Branch, St. Louis County Library Headquarters; Headquarters, St. Louis County Library Headquarters; St. Louis County Library; Washington University, Planetary School Library, and the FUSRAP Project Office.

### **6.2.3 Published Notices**

The Superfund Amendments and Reauthorization Act (SARA) requires a notice and brief description of a PP for remediation of sites to be published in a major local newspaper of general circulation. A notice explaining the remedial action plan for each site must also be published by the lead agency, and the plans must be made available to the public before commencement of any remedial action. Notices or advertisements should also be published to announce all public meetings sponsored by the lead agency.

In compliance with the requirements of SARA and in an effort to provide the public with the maximum opportunity to participate in the public



involvement activities for each site, the St. Louis District FUSRAP will continue to publish notices for all public meetings. While CERCLA requires public notices to be published in a newspaper of general circulation, further publication will be implemented. Notification of the release of a document, its public comment period, and public meeting information (date, time, location) will be further publicized through the issuance of fliers. Fliers may be distributed by sending them home with area school students, by forwarding fliers to churches for distribution after services, by placing fliers in local shops, and by door-to-door distribution at least one week prior to the meeting. Every effort will be made to encourage coverage by local media through mailed notifications of the event to personnel, and faxing reminder notices prior to and on the scheduled date of the event. Public meeting notices may also be published, as appropriate, in the *Federal Register*.

In addition, public notices will be published to announce a public review period on a document, to announce the public meeting following the completion of a PP, and to announce the availability of an Administrative Record following the completion of a ROD for a site.

#### **6.2.4 Public Meetings**

SARA also requires a public meeting during the comment period and prior to the selection of a remedial action for a National Priorities List (NPL) site. The public meeting held during the public comment period will provide stakeholders an opportunity to directly express concerns to FUSRAP representatives and to ask questions or comments on the recommended remedial alternatives.

Public meetings may be held at other times during the RI/FS process of each site, such as at the start of the field-work phase of the RI/FS and at the conclusion of the remedial investigation. Planning for public meetings should remain flexible to account for fluctuations in public interest. Possible meeting locations are listed in Appendix C.

FUSRAP will continue to provide the public with an opportunity to speak with representatives of the government agencies involved at the St. Louis Sites at public meetings.

#### **6.2.5 Public Meeting Transcripts**

The lead agency will assure that a verbatim transcript is taken of each public meeting held during the public comment period for a recommended alternative. A copy of each public meeting transcript shall be maintained in the appropriate Administrative Record or Administrative Record File and at the



FUSRAP Public Information Office. Public meeting transcripts will be available for the public and copies may be obtained upon request.

### **6.2.6 Responsiveness Summary**

All significant comments received during public comment periods will be addressed in a Responsiveness Summary. The ROD for each operable unit identifies the final cleanup remedy and summarizes the way in which the remedy was chosen by the lead agency. The Responsiveness Summary documents the comments raised by the public on the selected remedy, and records the lead agency's responses to all substantial public comments. Copies of the Responsiveness Summary for each document are placed with the document in the appropriate Administrative Record or Administrative Record File.

### **6.2.7 Meetings with Local Officials and Interested Groups**

Local government officials and interested community groups will be kept informed of investigation and cleanup activities at the St. Louis Sites, primarily through the St. Louis Sites Oversight Committee. Regularly scheduled phone contact is maintained with the U.S. Environmental Protection Agency and the Missouri Department of Natural Resources (known as St. Louis FUSRAP's Missouri regulators). FUSRAP officials will continue to maintain regular contact on a schedule satisfactory to all parties. Additionally, FUSRAP will periodically contact local officials, representatives of interest groups, and the media to update them regarding progress at each site. FUSRAP will also publicize any reasonable opportunities for members of the community to attend public meetings.

FUSRAP representatives are especially attentive to the site information needs of the community, local government, and interest groups in the area. A Speakers Bureau has been made available to the community to discuss areas of interest with concerned groups at their request. USACE site representatives have and will continue to discuss cleanup efforts or areas of expertise such as engineering, management, chemistry, geology, health, and safety. In addition to the public meetings, public hearings, and availability sessions held in the St. Louis area, USACE representatives will continue to meet with community groups, local officials, and others. The phone number and address of the St. Louis FUSRAP Project Office is included in all publications, notices, advertisements, press releases, and other printed material in an attempt to make information as available as possible to the public.



### **6.2.8 Fact Sheets**

Fact sheets, developed at regular intervals during the FUSRAP process for each site, are intended to provide the community with information about the site in layman's language. Fact sheets have been released at the beginning of the Remedial Investigation (RI) of several sites to explain the FUSRAP process and the activities to be conducted during the study. A second fact sheet is often prepared to explain the findings of the RI for each site. Following the FS and development of the PP, a detailed description of the alternatives being considered for the remediation of each individual site at the St. Louis Sites is provided in a third fact sheet.

An additional fact sheet will be issued to describe the Remedial Design (RD) and Remedial Action (RA) phases to be implemented at each site or to address specific community concerns unique to the site. Copies of the fact sheets will be placed in the Administrative Record and Administrative Record Files for the sites.

### **6.2.9 Newsletter**

A newsletter will be issued by FUSRAP to inform the community of the status and progress of work at the St. Louis Sites. The newsletters will be developed and distributed quarterly during the FUSRAP process. Copies of the newsletters will be placed in each Administrative Record or Administrative Record File for the sites.

### **6.2.10 Press Releases**

Prepared statements will be released to local newspapers, radio, and television stations to announce the discovery of any significant findings at the sites during the RI/FS or RD/RA, and to notify the community of any public meetings or public comment periods. Additional press releases will be issued at the completion of the draft FS report for each site and prior to initiation of any remedial actions. Press releases will be sent to those on the media list in Appendix E. Press releases will be placed in the Administrative Record and/or the Administrative Record File for the sites.

Press releases have been used as one of several methods of communicating the findings and activities at the St. Louis Sites to the public. The information in these press releases is often supplemented by fact sheets or discussed at public meetings. FUSRAP will continue to issue press releases to keep the media and the public informed about FUSRAP activities at the St. Louis Sites.



### **6.2.11 Mailing List**

A mailing list of contacts and interested parties was created when the St. Louis Sites were placed on the NPL and/or in FUSRAP. This list contains names of residents, government officials, interest group representatives, media contacts, and other interested individuals and is maintained by the Public Information Office. Periodic updating throughout the RI/FS and RD/RA process for each site, and following local political elections will keep the list current. An opportunity for individuals to be included on the mailing list is provided in each fact sheet, newsletter, and public announcement as well as in other public information documents.

A mailing list compiling the names of several hundred individuals and organizations interested in activities at the St. Louis Sites will continue to be maintained. This mailing list will continually be reviewed and updated by the Project Information Office to provide an up-to-date source for all government and media contacts in addition to listing residents and groups. Sign-up cards will be provided at public events to provide the opportunity for interested parties to be included on the mailing list.

### **6.2.12 Establish an Information Contact**

The St. Louis District USACE Project Office will serve as the main point of contact to receive and respond to requests for information on St. Louis FUSRAP and to coordinate the implementation of this plan. The project coordinator's name, telephone number, and mailing address will be prominently displayed in all site publications and advertisements published by the lead agency.

The St. Louis FUSRAP Program Manager has played an active role in providing site-related information to the public. The Project Office's mailing address and phone number has been displayed on all public notices, fact sheets, updates, and other correspondence. Appendix E lists the names, addresses, and phone numbers of managers for each agency involved in the remediation process.

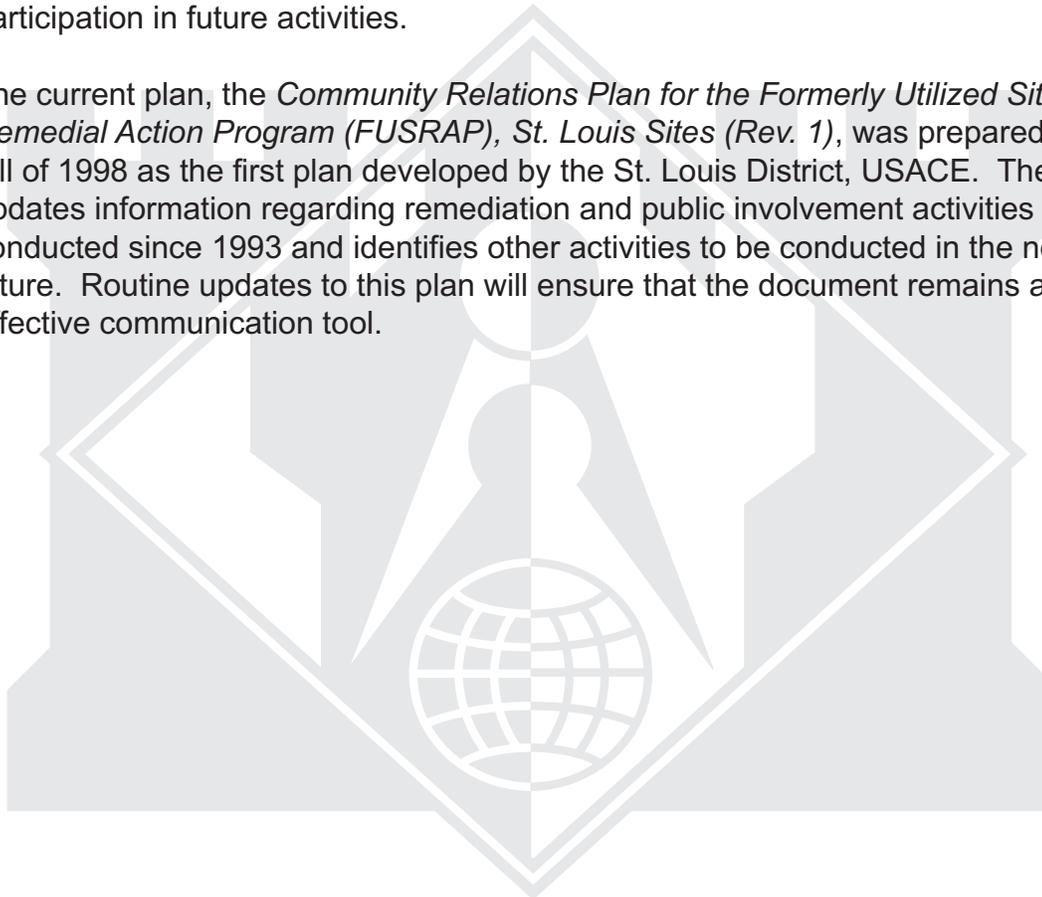
### **6.2.13 Revisions or Future Updates to this Community Relations Plan**

During the CERCLA remediation process, the St. Louis District, USACE may choose to revise this CRP to account for the changing concerns of the community. Revisions to the CRP will include an assessment of the community relations activities appropriate for the remediation phases of each FUSRAP Site. A copy of the revised plan will be placed in each Administrative Record and Administrative Record File.

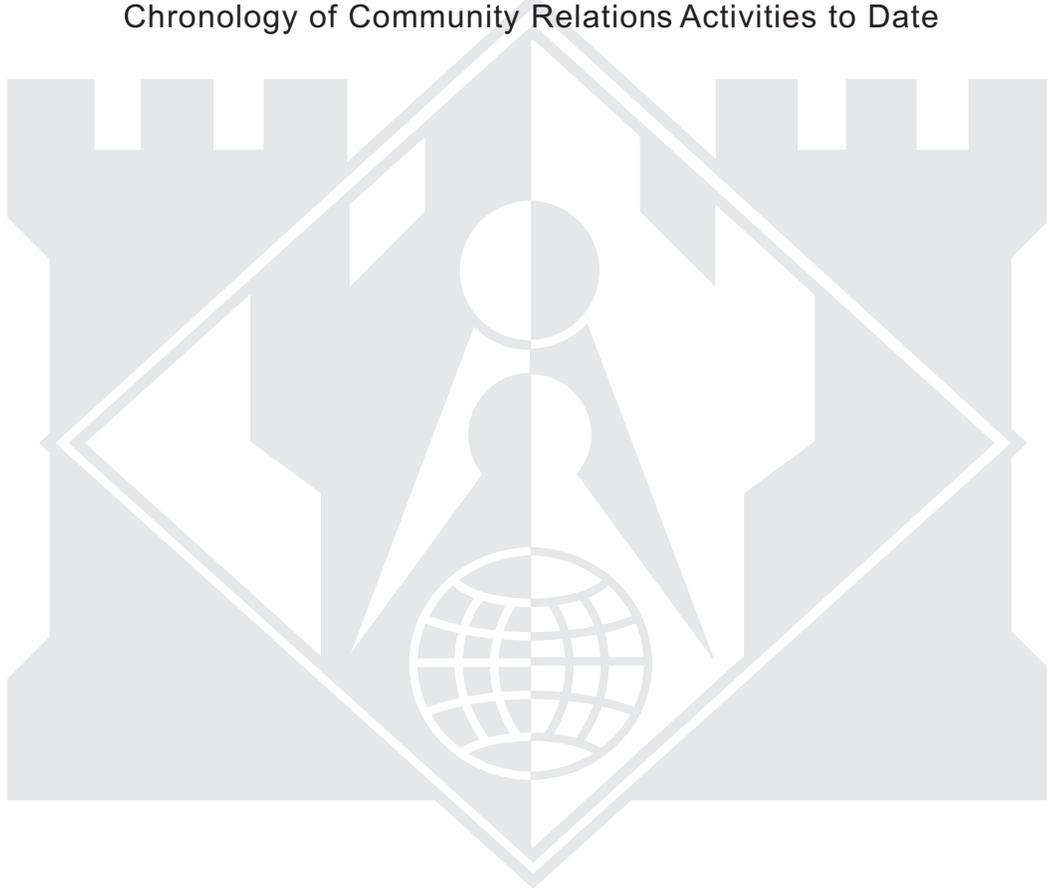


Other CRPs have been prepared for the St. Louis FUSRAP Sites in the past under the U.S. Department of Energy. These plans cited the goals and objectives for community relations efforts at the sites. The most recent plan, prepared in 1993 included an assessment of community relations activities initiated until that time to facilitate effective communication between FUSRAP representatives and stakeholders. The plan described tasks that had been implemented by the agencies during remedial activities at the St. Louis Sites and identified opportunities for public participation in future activities.

The current plan, the *Community Relations Plan for the Formerly Utilized Sites Remedial Action Program (FUSRAP), St. Louis Sites (Rev. 1)*, was prepared in the fall of 1998 as the first plan developed by the St. Louis District, USACE. The plan updates information regarding remediation and public involvement activities conducted since 1993 and identifies other activities to be conducted in the near future. Routine updates to this plan will ensure that the document remains an effective communication tool.



**APPENDIX A**  
Chronology of Community Relations Activities to Date



**APPENDIX A**

**Chronology of Community Relations Activities to Date**

<i>Date</i>	<i>Major Activity</i>	<i>Activity Description</i>
October 1989	NPL Listing	SLAPS and HISS placed on the NPL by EPA
January 1990	Fact Sheet	DOE Evaluating Three Sites in St. Louis Area
January 1990	Fact Sheet	EPA Superfund Technical Assistance Grants
July 1990	Fact Sheet	DOE, EPA Sign Agreement to Coordinate St. Louis Cleanup Activities
August 1990	Fact Sheet	DOE, EPA Sign Agreement to Coordinate St. Louis Cleanup Activities
September 1990	Fact Sheet	DOE, EPA Sign Agreement to Coordinate St. Louis Cleanup Activities
October 1990	Fact Sheet	DOE Responds to Resident Requests for Site Information
November 1990	Fact Sheet	DOE Responds to Resident Requests for Site Information
June 1991	Press Release	DOE Announces the Opening of a Public Comment Period on the SLDS EE/CA
June 1991	Public Notice Record Files	Newspaper display by DOE Announcing the Availability of the Administrative



<i>Date</i>	<i>Major Activity</i>	<i>Activity Description</i>
June 1991	Public Notice	Newspaper display by DOE Requesting Public Comment and Announcing a Public Meeting for an Engineering Evaluation/ Cost Analysis for SLDS removal activities
June 1991	Public Notice	Federal Register Floodplain Notice for Remedial Work on HISS VPs
January 1992	Public Notice	Federal Register Notice of Intent to Prepare a Remedial Investigation/Feasibility Study - Environmental Impact Statement
January 1992	Press Release	DOE Announces a Public Meeting to Discuss the Development of Environmental Studies
January 1992	Press Release	DOE Announces a Public Meeting to Discuss the Development of Environmental Studies
January 1992	Public Notice	DOE Newspaper Display Ad Announcing a Public Meeting to Review Environmental Studies Being Developed
April 1992	Newsletter	FUSRAP Update: The St. Louis Sites
April 1992	Public Notice	DOE Newspaper Display Ad Announcing a Public Meeting to Review An EE/CA for Cleanup of HISS VPs
August 1992	Fact Sheet	Formerly Utilized Sites Remedial Action Program
August 1992	Fact Sheet	Principal Laws and Regulations Affecting the FUSRAP Cleanup Program



<i>Date</i>	<i>Major Activity</i>	<i>Activity Description</i>
August 1992	Fact Sheet	Administrative Record Requirements for FUSRAP
August 1992	Fact Sheet	The St. Louis Site
August 1992	Newsletter	FUSRAP Update: The St. Louis Sites
February 1993	Newsletter	FUSRAP: St. Louis Information Update
May 1993	Press Release	DOE Announces Availability of Speakers Bureau
May 1993	Fact Sheet	The St. Louis Site, St. Louis, Missouri
June 1993	Public Workshop	A public workshop was held for government officials and staff members to receive an update on DOE cleanup and disposal options being developed in the FS
July 1993	Open House	DOE holds an Open House at the Public Information Office at HISS
July 1993	Newsletter	FUSRAP Update: The St. Louis Site
September 1993	Document	DOE Issues a Revised Community Relations Plan
December 1993	Newsletter	FUSRAP Update: The St. Louis Site
August 1994	Press Release	DOE Announces Plans to Begin Remediation Efforts in St. Louis
November 1994	Newsletter	FUSRAP Update: The St. Louis Site
Fall 1995	Newsletter	FUSRAP Update: The St. Louis Site
Spring 1996	Newsletter	FUSRAP Update: The St. Louis Site



<i>Date</i>	<i>Major Activity</i>	<i>Activity Description</i>
March 1997	Fact Sheet	St. Louis Missouri Site, St. Louis Missouri
Spring 1997	Newsletter	FUSRAP Update: The St. Louis Site
June 1997	Press Release	DOE Announces Technology Demonstration to be held at SLAPS
August 1997	Public Notice	DOE Newspaper Display Ad Announcing a Public Meeting to Review a SLAPS EE/CA
Summer 1997	Newsletter	FUSRAP Update: The St. Louis Site
December 1997	Press Release	USACE Announces the Completion of SLAPS Phase I-A Activities
February 1998	Newsletter	FUSRAP Update: The St. Louis Site
March 1998	Fact Sheet	Summary of Activities at the St. Louis Airport Site
March 1998	Fact Sheet	Summary of Activities at the Hazelwood Interim Storage Site
March 1998	Public Notice	USACE Newspaper Display Ad
March 1998	Public Notice	USACE Newspaper Display Ad Announcing the Public Availability of the SLAPS EE/CA and the HISS EE/CA
April 1998	Fact Sheet	Summary of Activities at the St. Louis Downtown Site
April 1998	Fact Sheet	St. Louis Downtown Site Feasibility Study



<i>Date</i>	<i>Major Activity</i>	<i>Activity Description</i>
April 1998	Fact Sheet	St. Louis Downtown Site Proposed Plan Announcing a Public Meeting to be Held for a SLAPS EE/CA and a HISS EE/CA
April 1998	Public Notice	Federal Register Notice Announcing the Availability of the SLDS FS/PP and the Intent to Hold a Public Meeting to Discuss the Documents
April 1998	Public Notice	Federal Register Notice Announcing the Availability of the SLDS FS/PP and the Intent to Hold a Public Meeting to Discuss the Documents
April 1998	Public Notice	USACE Legal Notice Announcing the Public Meeting to Discuss the SLDS FS/PP
June 1998	Newsletter	FUSRAP Update: The St. Louis Site
October 1998	Newsletter	FUSRAP Update: The St. Louis Sites
November 1998	Document	USACE Issues the Revised St. Louis Sites Community Relations Plan



**APPENDIX B**  
Community Interview Questionnaire



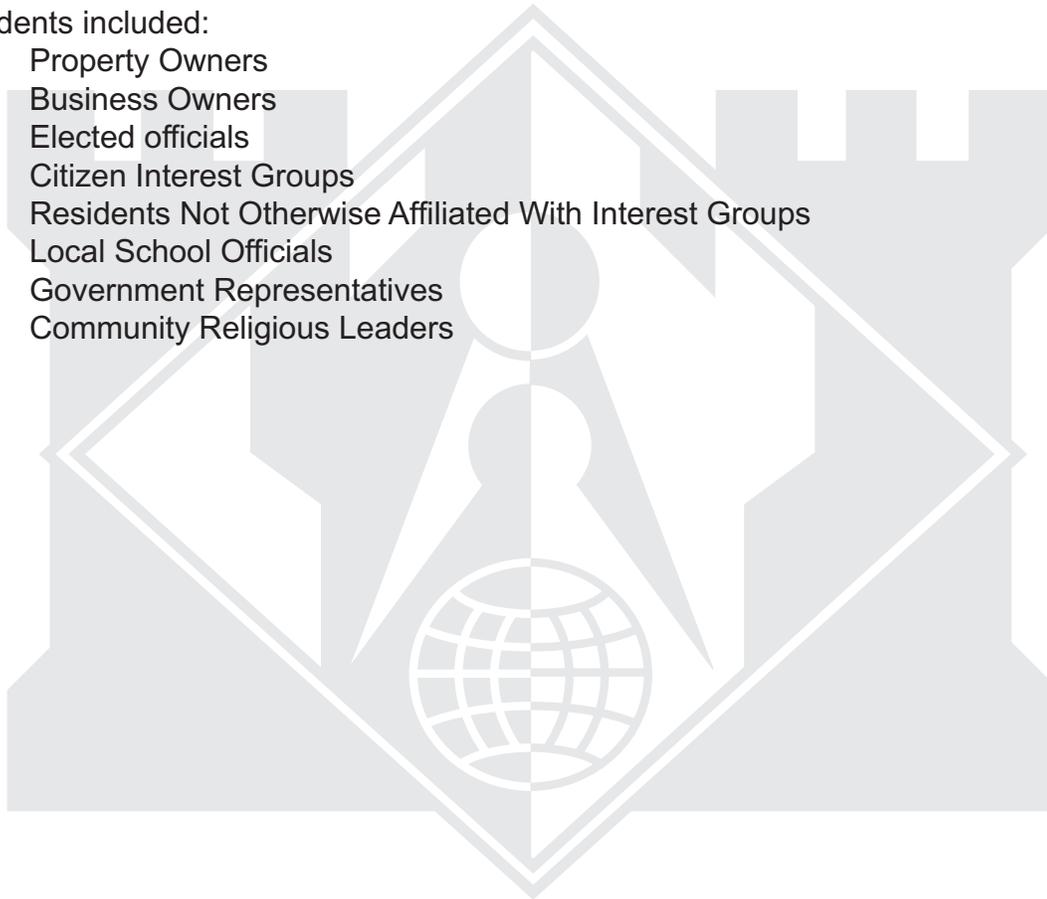
## **Appendix B**

### **Community Interview Questionnaire**

In October 1998, USACE conducted St. Louis Sites community interviews, in which 17 questionnaires were completed. Respondents were selected to represent communities affected by site-remediation activities at the St. Louis Sites.

Respondents included:

- Property Owners
- Business Owners
- Elected officials
- Citizen Interest Groups
- Residents Not Otherwise Affiliated With Interest Groups
- Local School Officials
- Government Representatives
- Community Religious Leaders



**St. Louis Community Interview**

---

NAME/TELEPHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

AFFILIATION: \_\_\_\_\_

INTERVIEWED BY / DATE: \_\_\_\_\_

---

1. When did you first become aware of problems at the site?
2. What is your understanding of the site history?
3. Have you had any problems on your property that you think are attributable to the site?
4. What contacts have you had with representatives of the site? Do you feel they were responsive to your concerns?
5. What are your current concerns about the site?
6. Have you participated in activities concerning the site?
7. How would you like to be involved in future activities?
8. How can USACE best provide you information concerning response activities?
9. What kinds of information do you need?
10. How do you want to receive information and how frequently?
11. Can you suggest other individuals or groups that should be contacted for additional information?



**APPENDIX C**  
Potential Meeting Locations



**APPENDIX C  
Potential Meeting Locations**

Hazelwood Civic Center-East  
8969 Dunn Road  
Hazelwood, Missouri 63042  
(314) 731-0980

St. Louis County Government Center  
7900 Forsythe Boulevard  
Clayton, Missouri 63105  
(314) 889-2000

Henry Clay Elementary School  
3820 North 14th Street  
St. Louis, Missouri 63107  
(314) 231-9608

St. Louis World Trade Center  
121 South Meramec Street  
St. Louis, Missouri 63105  
(314) 854-6141



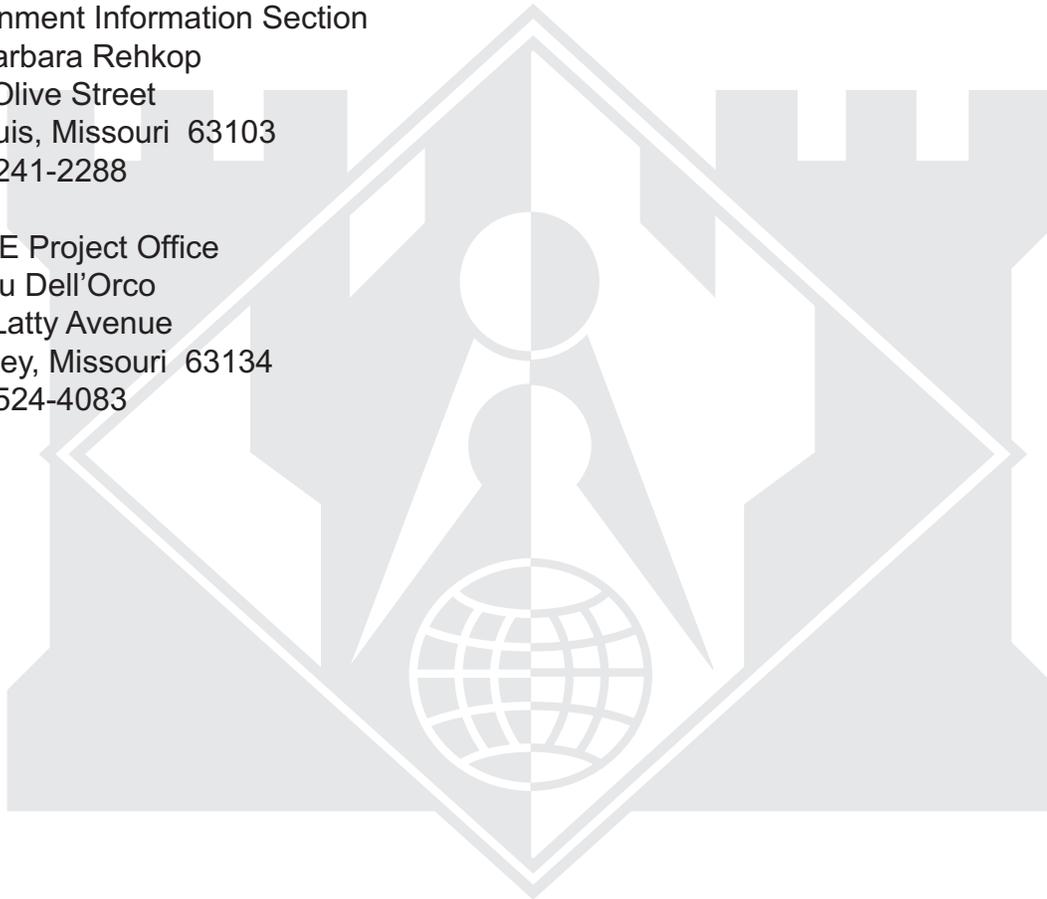
**APPENDIX D**  
Administrative Record Locations



**APPENDIX D**  
**Administrative Record Locations**

St. Louis Public Library  
Government Information Section  
Ms. Barbara Rehkop  
1301 Olive Street  
St. Louis, Missouri 63103  
(314) 241-2288

USACE Project Office  
Mr. Lou Dell'Orco  
9170 Latty Avenue  
Berkeley, Missouri 63134  
(314) 524-4083



**APPENDIX E**  
Key Points of Contact



**APPENDIX E**  
**Key Points of Contact****Governor**

Melvin Carnahan (D)  
Missouri Capitol Building, Room 216, P.O. Box 720 Jefferson City, MO 65102-0720  
(573) 751-3222; Fax: 751-1495  
St. Louis Office: (314) 340-6900; Fax: 340-7292

**U.S. Senate**

John Ashcroft (R)  
SR-316 Hart Bldg. Washington, DC 20510-2504  
(202) 224-6154  
Email: john\_ashcroft@ashcroft.senate.gov  
Internet: <http://www.senate.gov/~ashcroft/>  
District Office: 8000 Maryland Ave., Suite 400  
St. Louis, MO 63105 (314) 725-4484

Christopher "Kit" Bond (R)  
SR-293 Russell Bldg. Washington, DC 20510-2503,  
(202) 224-5721; Fax: 224-8149  
Email: kit\_bond@bond.senate.gov  
Internet: <http://www.senate.gov/~bond/>  
District Office: 8000 Maryland Ave., Suite 440  
St. Louis, MO 63105  
(314) 727-7773

**U.S. House of Representatives**

**District 1 (SLDS):** William Clay (D)  
2306 Rayburn Bldg. Washington, DC 20515-2501  
(202) 225-2406;  
Fax: 225-1725  
Internet: <http://www.house.gov/clay/>  
District Office: 5261 Delmar Blvd.  
St. Louis, MO 63108  
(314) 367-1970



**District 2 (SLAPS, SLAPS VPs, Latty VPs):** James Talent (R)

1022 Longworth Bldg., Washington, DC 20515-2502

(202) 225-2561; Fax: 225-2563

Email: talentmo@hr.house.gov

Internet: <http://www.house.gov/talent/>

District Office: 555 N. New Ballas Rd., Suite 315, St. Louis, MO 63141

(314) 872-9561; Fax: 872-3728

**District 3 (St. Louis area):** Richard Gephardt (D)

1226 Longworth Bldg., Washington, DC 20515-2503

(202) 225-2671; Fax: 225-7452

E-mail: gephardt@hr.house.gov

Internet: <http://www.house.gov/gephardt/>

District Office: 11140 South Towne Square, Room 201, St. Louis, MO 63123

(314) 894-3400

**Missouri Senate, State Capitol Bldg., Jefferson City, MO 65101****5th District (St. Louis):** J.B. "Jet" Banks (D), (573) 751-4650; Fax: 751-9276

Email: jbanks@services.state.mo.us

**7th District (Hazelwood):** Francis "Franc" Flotron, Jr. (R), (573) 751-2371;

Fax: 751-2745, E-mail: fflotron@services.state.mo.us

**13th District (Berkeley):** Wayne Goode (D), (573) 751-2420; Fax: 751-2745

Email: wgoode@services.state.mo.us

**14th District (Hazelwood):** John Schneider (D), (573) 751-4106; Fax: 751-2745**24th District (Hazelwood, Berkeley):** Betty Sims (R), (573) 751-7147;

Fax: 751-2745, Email: bsims01@services.state.mo.us

**Missouri House of Representatives, 201 West Capitol Avenue, Jefferson City, MO 65101****58th District (St. Louis):** Louis Ford (D), (573) 751-2383; Fax: (573) 751-0940

Email: lford01@services.state.mo.us

**70th District (Berkeley):** Russell Gunn (D), (573) 751-4726; Fax: (573) 751-6724**71st District (Berkeley):** Rita Days (D), (573) 751-4468; Fax: (573) 526-1239

Email: rdays01@services.state.mo.us

**76th District (Hazelwood):** Lana Stokan (D), (573) 751-9760;

Fax: (573) 751-0130, Email: lstokan@services.state.mo.us



**78th District (Hazelwood):** Carol Stroker (D), (573) 751-1200  
Email: cstroke@services.state.mo.us

**79th District (Hazelwood, Berkeley):** Patrick O'Connor (D), (573) 751-2726;  
Fax: 526-7997, Email: poconnor@services.state.mo.us

**80th District (Berkeley):** John Hickey (D), (573) 751-4670; Fax: 526-2039  
Email: jhickey@services.state.mo.us

**81st District (St. Louis area):** James Foley (D), (573) 751-0855; Fax: 526-1967  
Email: jfoley@services.state.mo.us

### U.S. Army Corps of Engineers

#### FUSRAP Contacts

Sharon Cotner, FUSRAP Program Manager  
9170 Latty Avenue  
Berkeley, MO 63134  
(314) 524-4083; Fax: (314) 524-6044

**Primary Contact:** Lou Dell'Orco, FUSRAP Project Manager  
(314) 524-6857; Fax: (314) 524-6044

### Regulatory Contacts

**Dept. of Natural Resources,** Steve Mahfood, Director, P.O. Box 176,  
Jefferson City, MO 65102, (573) 751-4732;  
Fax: 751-7627; Primary contacts: Ron Kucera (573) 751-7627; Bob Geller  
(FFS) (573) 751-3176

### Illinois Department of Nuclear Safety

1035 Outer Park Drive  
Springfield, IL 62704  
(217) 785-9900; TDD: (217) 782-6153; Fax: (217) 785-9962

**Missouri Dept. of Health,** Bureau of Environmental Epidemiology,  
Daryl Roberts, Chief; Gale Carlson, Acting Chief  
P.O. Box 570, Jefferson City, MO 65102,  
or 930 Wildwood, Jefferson City, MO 65109 (573) 751-6102;  
Fax: (573) 526-6946; Primary contact: Alyce Turner, Cancer Inquiry  
Coordinator (573) 876-3216



**U.S. EPA Region V, Superfund Branch**

77 West Jackson Boulevard, Chicago, IL 60604  
(312) 353-2000; Fax: (312) 886-4071

**U.S. EPA Region VII, Dennis Grams, Regional Administrator,**

726 Minnesota Ave., Kansas City, KS 66101  
Primary contact: Dan Wall (913) 551-7710; Fax (573) 551-7063;  
Gene Gunn (913) 551-7776;

**Federal Emergency Management Agency,**

Attn. John Miller, Regional Director; 2323 Grand Blvd., Suite 900,  
Kansas City, MO 64108-2670; (816) 283-7060; Fax: 283-7582

**Agency for Toxic Substances and Disease Registry, Attn. David Parker, 726**  
Minnesota Ave., Kansas City, KS 66101; (913) 551-7772

**Community Involvement**

**St. Louis Municipal League, Attn. Tim Fischesser, Executive Director; 121 S.**  
Meramec Ave.; Clayton, MO 63105; (314) 726-4747; Fax: 726-1520

**Missouri Coalition for the Environment, Attn. Roger Pryor, 6267 Delmar Rd., St.**  
Louis, MO 63130; (314) 727-0600; Fax: 727-1665



**City of St. Louis**

City Hall  
1200 Market St.  
St. Louis, MO 63103  
(314) 622-4089

The City of St. Louis is governed by a mayor and board of aldermen. The mayor is chief executive, and the 28-member board (elected from wards) is the legislative body. The Airport Authority is an independent agency that is part of the city government.

Mayor: Clarence Harmon (D); (314) 622-3201; Fax: 622-4061

President of Board of Aldermen: Francis Slay (314) 622-3287; Fax: 622-4273

Special Asst. to President of Board of Aldermen: Geraldine Osborn  
(314) 622-4114

Board of Aldermen: Perry May; Nancy Weber; Freeman Bosley, Sr.; Miguel Mitchell; April Ford Griffin; Marit Clark; Phyllis Young; Stephen Conway; Martie Aboussie; Craig Schmid; Matt Villa; Fred Heitert; Alfred Wessels, Jr.; Stephen Gregali; Margaret Vining; James Shrewsbury; Joseph Roddy; Terry Kennedy; Michael McMillan; Sharon Tyus; Bennice Jones King; Kenneth Jones; James Sondermann; Robert Ruggeri; Paul Beckerle; Irving Clay, Jr.; Gregory Carter; Lyda Krewson

Public Safety Director: Julian Boyd, City Hall, Room 401, St. Louis, MO 63103;  
(314) 622-3391

Controller: Darlene Green, City Hall, Room 212, St. Louis, MO 63103; (314) 622-3297

Health and Hospitals Director: Dr. Larry E. Fields, Interim Director/Health Commissioner; Room 920; 634 North Grand; St. Louis, MO 63103; (314) 658-1140

Airports Director: Col. Leonard Griggs, Lambert-St. Louis International Airport, P.O. Box 10212, St. Louis, MO 63145; (314) 426-8020

Airport Authority Public Relations: Sandy Singer, Nancy Benson, Carl DeBord, David Koehr, Terrie Morris; Angelia Bills, Monica Edwards, Marie Yancey, Mike Donatt Lambert-St. Louis International Airport, P.O. Box 10212, St. Louis, MO 63145;  
(314) 426-8055



**City of Hazelwood**

City Hall  
415 Elm Grove Lane  
Hazelwood, MO 63042  
(314) 839-3700; Fax: 839-0249

The City of Hazelwood is governed by a council/city manager system. The nine-member council consists of eight members elected from wards and a mayor elected at large.

Mayor: David Farquharson (nonpartisan)

City Council: Matthew Robinson, Robert Aubuchon, Norma Caldwell, Mary O'Reilly, Peg C. Lampert, Mollie Rickey, Jeanette Eberlin, Patricia Jackson, Richard Piotrowicz

City Manager: Edwin Carlstrom

City Clerk: Colleen Klos

**City of Berkeley**

6140 North Hanley Rd.  
Berkeley, MO 63134-2098  
(314) 524-3313; Fax: 524-3323

The City of Berkeley is a Constitutional Charter City - Council/Manager form of Government. The seven-member city council consists of five members elected from wards, one member elected at large, and a mayor elected at large.

Mayor: TBD

City Council: Judy Shaw, Kenneth McClendon (council member at large), Babatunde Deinbo, Nina S. Schaefer, Marion H. Robinson, Louvenia Mathison, Aloha Keely

City Manager: Margie P. Hollins

City Clerk: Eileen Young



**County of St. Louis**

County Government Center  
41 South Central  
Clayton, MO 63105  
(314) 889-2000; Fax: 889-3727  
Internet: <http://www.st-louis.mo.us/st-louis/county/>

The County of St. Louis is governed by an elected county executive and a county council. The council consists of seven members elected from districts.

County Executive: George “Buzz” Westfall (D), (314) 889-2016; Fax: 889-3727;  
Email: [county\\_executive@co.st-louis.mo.us](mailto:county_executive@co.st-louis.mo.us)

County Council Chairperson: Charlie A. Dooley (314) 889-2436

County Council:

Charlie A. Dooley (314) 889-2436  
Robert A. Young IV (314) 889-2437  
Edith Cunnae (314) 889-2438  
James E. O’Mara (314) 889-2439  
Kurt S. Odenwald (314) 889-2441  
Jeffrey R. Wagener (314) 889-2442  
Gregory F. Quinn (314) 889-2443

County Clerk: Jeanette Hook (314) 889-2440

Health Department 111 South Meramec Ave., Clayton, MO 63105

Director: Dr. Paula S. Thomas (314) 854-6000  
Division of Environmental Services Manager:  
Conn Roden (314) 854-6698  
Air, Land, and Water Branch Manager:  
Christopher Byrne (314) 854-6921

St. Louis Site Remediation Oversight Committee:

Ric Cavanagh (Chair) (314) 854-6635; Fax (314) 854-6435  
Anna Ginsburg (Co-Chair) (314) 622-4428; Fax (314) 622-4398

Members: Jack Fraunhoffer, William Brandes, Jan Titus, Thomas Manning,  
Sally Price, Nancy Lubiewski, Roger Pryor, George Eberle,  
and Donovan Larson



**News Media for St. Louis Area Sites**Newspapers*St. Louis Post-Dispatch*

Attn: Tom Uhlenbrock (Environment)  
Attn: Mark Schlinckmann (City Admin.)  
Attn: Phyllis Librach (North County Bureau)  
Attn: Dan Mihalopoulos (County Admin.)  
900 North Tucker Blvd.  
St. Louis, MO 63101  
(314) 340-8000; Fax: 340-3050

*North County Journal*

Attn: Barbara Ponder  
Attn: Nancy Ide  
4305 Woodson Rd.  
St. Louis, MO 63134  
(314) 426-2222; Fax: 426-4911

*Riverfront Times*

Attn: Safir Ahmed, Editor  
1221 Locust St., Suite #900  
St. Louis, MO 63103  
(314) 615-6666; Fax: 231-9040

*Florissant Valley Reporter*

Attn: Jeanette Eberlin  
525 St. Francois St.  
P.O. Box 69 (63032)  
Florissant, MO 63031  
(314) 839-1111

*St. Louis American*

Attn: Eric Clark, Editor  
4144 Lindell Blvd.  
St. Louis, MO 63108



1 533-8000; Fax: 533-0038

*Independent News*

Attn: Bob Lindsay

25 St. Anthony Lane

Florissant, MO 63031

(314) 831- 4645

*St. Louis Business Journal*

Attn: Patricia Miller

1 Metropolitan Square

St. Louis, MO 63102

(314) 421- 6200; Fax: 621-5031

### Television

KMOV-TV (CBS, Channel 4)

One Memorial Dr.

St. Louis, MO 63102

(314) 444-6333 (Newsroom); Fax: 621-4775

KPLR-TV (Independent, Channel 11)

4935 Lindell Blvd.

St. Louis, Missouri 63108

(314) 367-7211; Fax: 454-6431

sid@mail.kplr.com

<http://www.kplr.com/>

KSDK-TV (NBC, Channel 5)

1000 Market St.

St. Louis, MO 63101

(314) 444-5125; Fax: 444-5164

ksdk5@aol.com

KTVI-TV (FOX Channel 2)

5915 Berthold Ave.

St. Louis, MO 63110

(314) 647-2222; Fax: 647-8960

ktvi2@aol.com



KDNL-TV (ABC Channel 30)  
1512 Cole Street  
St. Louis, MO 63106  
(314) 436-3030  
NEWS30@aol.com

Radio

KMOX-AM 1120  
One Memorial Dr.  
St. Louis, MO 63102  
(314) 444-3206; Fax: 444-1856

KWMU Radio  
8001 Natural Bridge Rd.  
St. Louis, MO 63121  
(314) 516-5968; Fax: 516-5993  
Email: kwmu@umslvma.umsl.edu



**APPENDIX F**  
List of Acronyms



**APPENDIX F**  
**List of Acronyms**

<b>AEC</b>	U.S. Atomic Energy Commission
<b>ARARs</b>	Applicable or Relevant and Appropriate Requirements
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CRP</b>	Community Relations Plan
<b>COCs</b>	Contaminants of Concern
<b>DoD</b>	U.S. Department of Defense
<b>DOE</b>	U.S. Department of Energy
<b>EE/CA</b>	Engineering Evaluation/Cost Analysis
<b>EPA</b>	U.S. Environmental Protection Agency
<b>FFA</b>	Federal Facilities Agreement
<b>FUSRAP</b>	Formerly Utilized Sites Remedial Action Program
<b>IDNS</b>	Illinois Department of Nuclear Safety
<b>HISS</b>	Hazelwood Interim Storage Site
<b>Latty VPs</b>	Latty Avenue Vicinity Properties
<b>MDNR</b>	Missouri Department of Natural Resources
<b>MED</b>	Manhattan Engineer District
<b>NCP</b>	Nation Contingency Plan
<b>NPL</b>	National Priorities List
<b>NRC</b>	Nuclear Regulatory Commission
<b>ORNL</b>	Oak Ridge National Laboratory
<b>OU</b>	Operable Unit
<b>PA/SI</b>	Preliminary Assessment/Site Inspection
<b>Ra</b>	radium
<b>RI/FS</b>	Remedial Investigation/Feasibility Study
<b>RD/RA</b>	Remedial Design/Remedial Action
<b>ROD</b>	Record of Decision
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>SLAPS</b>	St. Louis Airport Site
<b>SLAPS VPs</b>	St. Louis Airport Site Vicinity Properties
<b>SLDS</b>	St. Louis Downtown Site
<b>USACE</b>	U.S. Army Corps of Engineers
<b>Th</b>	thorium
<b>U</b>	uranium
<b>VP</b>	Vicinity Property



**APPENDIX G**  
Glossary of Terms



## APPENDIX G

### Glossary of Terms

#### A

**Administrative Record** - A statutorily required file of documents that forms the basis of critical decisions made regarding cleanup. It is available for public review and comment.

**alpha radiation** - The most energetic but least penetrating form of radiation. It can be stopped by a sheet of paper and cannot penetrate human skin. However, if an alpha-emitting isotope is inhaled or ingested, it will cause highly concentrated local damage.

**ARARs** - Applicable or relevant and appropriate requirements (Federal and State environmental standards).

#### B

**Baseline Risk Assessment** - The study and estimation of risk from taking no activity. Involves estimates of probability and consequence.

**beta radiation** - High-energy electrons (beta particles) emitted from certain radioactive material. Can pass through 1 to 2 centimeters of water or human flesh and can be shielded by a thin sheet of aluminum. Beta particles are more deeply penetrating than alpha particles but, because of their smaller size, cause less localized damage.

#### C

**CERCLA** - Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund), the federal law that guides cleanup of hazardous waste sites. A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act. The Act created a special tax that goes into a trust fund, commonly known as Superfund, to investigate and cleanup abandoned or uncontrolled hazardous waste sites.

**characterization** - Facility or site sampling, monitoring, and analysis activities to determine the extent and nature of a release. Characterization provides the basis for acquiring the necessary technical information to develop, screen, analyze, and select appropriate cleanup techniques.

**cleanup** - The general term for environmental restoration, the process designed to ensure that risks to the environment and to human health and safety from waste sites either are eliminated or reduced to prescribed, safe levels.

**community relations** - Activities required by CERCLA to strengthen communications with interested parties at cleanup sites.

#### D

**decay** - The process whereby radioactive particles undergo a change from one form, or isotope, to another, releasing radioactive particles and/or energy.

**decay product** - An element formed by the radioactive decay of another element; often decay products are radioactive themselves.



**decontamination** - The removal of unwanted material (typically, radioactive material) from facilities, soils, or equipment by washing, chemical action, mechanical cleansing or other techniques.

**E**

**EE/CA** - Engineering Evaluation/Cost Analysis is an activity performed as part of the CERCLA process that evaluates technically and administratively feasible alternatives to clean up a site.

**environmental restoration** - The process of environmental cleanup designed to ensure that risks to the environment and to human health and safety from waste sites either are eliminated or reduced to prescribed, safe levels.

**erosion control** - Methods to control land surface features to prevent erosion by surface water or precipitation runoff.

**exposure** - A measurement of the displacement of electrons from atoms caused by x-rays or by gamma radiation. Acute exposure generally refers to a high level of exposure of short duration; chronic exposure is lower-level exposure of long duration.

**F**

**FFA** - Federal Facility Agreement, an agreement signed in 1990 between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA), outlining cleanup measures to be undertaken for the St. Louis Sites.

**FS** - Feasibility Study, the Superfund study following a remedial investigation which identifies, develops, evaluates, and selects remedial action alternatives.

**G**

**gabion wall** - Anti-erosion construction of rock-filled, wire baskets.

**gamma rays** - Penetrating electromagnetic waves or rays emitted from nuclei during radioactive decay, similar to x-rays. Dense materials such as concrete and lead are used to provide shielding against gamma radiation.

**groundwater** - Water beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. Groundwater is a major source of water for agricultural and industrial purposes and is an important source of drinking water for about half of all Americans.

**H**

**haul road** - A road once used to haul materials from one of the St. Louis Sites to another.

**I**

**interim removal action** - A cleanup measure performed to protect human health and the environment. Performed prior to final, comprehensive cleanup actions.

**L**

**Low-Level Waste** - Discarded radioactive material such as rags, construction rubble, glass, etc., that is only slightly or moderately contaminated. This waste usually is disposed of by land burial.



**N**

**NCP** - National Contingency Plan, the blueprint for implementing CERCLA and specifies that Cleanup remedies must protect human health and the environment. Remedies must also comply with all federal and state environmental standards.

**NPL** - National Priorities List, the list of the nation's worst Superfund sites. The St. Louis Airport Site (SLAPS) and the Latty Avenue properties were added to the NPL in October 1989.

**P**

**pitchblende** - A mineral that contains small quantities of uranium.

**PP** - Proposed Plan, a CERCLA document on which the public comments that summarizes what cleanup remedy has been selected, and why.

**Preliminary Assessments** - This is an historical record review of activities at the site that is used to determine the probability of likely locations of hazardous waste disposal areas and initially establishes the extent of contamination.

**R**

**Risk Assessment** - The study and estimation of risk from a current or proposed activity. Involves estimates of the probability and consequence of an action.

**radiation** - The emission and propagation of energy, examples include sound, heat, or radioactive energy.

**radioactive** - Giving off, or capable of giving off, radiant energy in the form of particles (alpha or beta radiation) or rays (gamma radiation) by the spontaneous disintegration of the nuclei of atoms. Radioisotopes of elements lose particles and energy through the process of radioactive decay. Elements may decay into different atoms or a different state of the same atom.

**radium** - Radioactive element with half-life of 1,620 years; highly toxic water-soluble metal; used in medicine, industrial radiography, and as a source of neutrons and radon.

**raffinite** - The portion of a liquid mixture that remains undissolved.

**remedial action** - Long-term cleanup activities.

**remedial design** - A phase of remedial action that follows the remedial investigation/feasibility study and includes development of engineering drawings and specifications for a site cleanup.

**remediation** - Those activities performed to remove or treat hazardous waste sites or to relieve their effects.

**removal action** - Interim cleanup activities that are identified as needed to protect public health and the environment.

**resident** - A member of a site's community (residents, property owners, businesses, and employees).

**RI** - Remedial investigation, the CERCLA process of determining the extent of hazardous substance contamination and, as appropriate, conducting treatability investigations.



**RI/FS** - Two distinct, but related studies, the remedial investigation and feasibility study. Together, they characterize environmental problems and outline remedial actions to solve those problems.

**ROD** - Record of Decision, a written decision that identifies the selected method for long-term cleanup of contamination at a site.

## **S**

**Site Closeout** - Stage at which the site is inspected by EPA to confirm the complete remediation of the contamination.

**Site Evaluation** - This is a physical inspection of the site to verify information obtained during the Preliminary Assessments.

**Superfund** - The program operated under the legislative authority of CERCLA and SARA that funds and carries out the EPA solid waste emergency and long-term removal remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority level on the list, and conducting and/or supervising the ultimately determined cleanup and other remedial actions.

## **T**

**thorium** - Radioactive element; soft, heavy metal, insoluble in water or alkalides but soluble in acids; progeny of uranium decay; used in the manufacturing of sunlamps and as a potential source of nuclear energy.

**treatment** - Any activity that alters the chemical or physical nature of a waste to reduce its toxicity or prepare it for disposal.

## **U**

**uranium** - The heaviest element found in nature. Approximately 997 out of every 1,000 uranium atoms are uranium-238. The remaining 3 atoms are the fissile uranium-235. The uranium-235 atom splits, or fissions, into lighter elements when its nucleus is struck by a neutron.

## **W**

**watershed** - The drainage area of a stream.



**APPENDIX H**  
Fact Sheets Issued to Date



**APPENDIX I**  
Newsletters Issued to Date



**APPENDIX J**  
Principal Laws and Regulations



## APPENDIX J

### Principal Laws and Regulations

The following are some of the most important laws that affect the St. Louis Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites.

**CERCLA:** Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

CERCLA is the main law governing cleanup at many FUSRAP sites. The act created a special tax that goes into a trust fund, commonly known as Superfund, to investigate and to clean up abandoned or uncontrolled hazardous waste sites.

A preliminary assessment is used to place a FUSRAP site on the National Priorities List (NPL). This list targets the most pressing sites for cleanup. Cleanup at FUSRAP NPL sites is guided by federal facility agreements (FFA) with the U.S. Environmental Protection Agency, with input from states where the sites are located.

CERCLA then calls for a Remedial Investigation (RI) and Feasibility Study (FS) process. The RI studies the site and checks possible cleanup alternatives, while the FS develops and screens these alternatives. A cleanup remedy is selected and a Record of Decision (ROD) is issued to record the preferred method and manner of cleanup. The ROD considers and addresses public comments and community concerns. Plans are drawn and cleanup begins. After work is done, the site is monitored to make sure that the cleanup works as designed.

### **NCP: National Contingency Plan**

The NCP is the blueprint for implementing CERCLA and specifies that cleanup remedies must protect human health and the environment. Remedies must also comply with all federal and state environmental standards, which are sometimes called applicable or relevant and appropriate requirements (ARARs). The NCP also identifies cost as a criterion for consideration when cleanup remedies are evaluated.



The NCP specifies nine criteria when selecting remedies for cleanup:

1. Overall protection of human health and the environment
2. Compliance with ARARs
3. Long-term effectiveness and permanence
4. Reduction of toxicity, mobility, or volume through treatment
5. Short-term effectiveness
6. Implementability
7. Cost
8. State acceptance
9. Community acceptance

All alternatives must 1) protect human health and the environment and 2) satisfy ARARs (unless a waiver is granted). The next five criteria are then considered equally to help determine the most effective remedy.

The final criteria, state and community acceptance, also play a role in remedy selection. These criteria are considered to be modifying criteria that may affect remedy selection after all the other factors have been evaluated.

**RCRA:** Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments (1984).

RCRA serves to manage hazardous wastes, requiring that safe and secure procedures be used to treat, ship, store, and dispose of hazardous wastes. Facilities performing these functions must hold special permits and are required to operate within specific guidelines

### **Other Laws and Regulations**

A variety of other laws may apply to the St. Louis FUSRAP Sites to address the contaminants that have been found, their location, and the activities taking place to remove or control their spread. These laws are federal and state standards known as “legally applicable or relevant and appropriate requirements” (ARARs).

**Clean Air Act** - sets standards for emissions of radionuclides into the air.

**Clean Water Act** - requires that a permit be obtained to discharge pollutants from pipes or other “point sources” into state waters.



**Primary Drinking Water Standards - MCLs for Radionuclides** - sets limits on the maximum concentration levels for the radionuclides radium-226 and radium-228.

**Uranium Mill Tailings Radiation Control Act (UMTRCA 1992): Cleanup of Radioactively Contaminated Land and Contaminated Buildings** - sets dose limits for radiation from radium-226.

**NRC Radiological Criteria for License Termination** - sets radiation standards for cleanup levels at a site when a site can be considered decommissioned and the license can be terminated.

**Protection of Wetlands** - under this executive order, a federal agency must minimize the destruction, loss, or degradation of wetlands, as well as preserve and enhance their natural and beneficial values.

**Governor's Executive Order, Floodplains** - requires an evaluation of actions taken in a floodplain in order to avoid adverse impacts.

**Floodplain Management and Protection** - sets procedures on floodplain management and protection, as could occur during excavation in a floodplain.

**Archeological Resources Protection Act** - serves to preserve historical and archeological data that might otherwise be destroyed by cleanup activities.

**Native American Graves Protection and Repatriation Act** - requires protection and repatriation of any Native American cultural items found on or taken from Federal or tribal lands.

Other guidelines and standards not yet written into law may also have bearing on the proposed action, along with U.S. Army Corps of Engineers Orders and guidelines. These guidelines are "to be considered" (TBC) in formulating and conducting the cleanup.

